The Marine Record.

ESTABLISHED 1878.

VOL. XV. CLEVELAND, OHIO, FEBRUARY 25, 1892. NO. 9.

Maritime Law.

District Court, D. Maine. April 10, 1890.

1. Libel—Loss of Cargo—Cross-Libel—Value of Vessel—When Maintainable—In a suit by the charterers of a vessel to recover under the charter party for damages and loss in respect to the cargo the owners may maintain a cross-libel for the value of the vessel and for freight, demurrage, etc., upon the ground that she was lost through the fault of the charterers.

2. Seaworthiness—Evidence—A brig built in 1865, and extensively repaired in 1884, was chartered for a voyage. She encountered no severe weather on the outward voyage or during the four months she remained on the coast, but before leaving there she was found to be leaking badly and to be considerably wormed, and was imperfectly repaired by tacking on lead sheets. She sailed with a cargo not excessive for a seaworthy vessel, and shortly after encountered a squall of no great severity. Almost immediately afterwards she was found to be leaking badly, and at once returned to the coast, where, after a survey, she was condemned and sold. She was shortly afterwards broken up and found to be weak, rotten and wormed, and with seams and butts open. Held, sufficient to show that she was unseaworthy when she left the coast.

3 Same—Perils of the Sea—Injury to a vessel by worms is not a peril of the sea.

4. Same—Master and Crew—Seaworthiness includes a competent master and crew, and upon chartering a vessel for a voyage it is the duty of the owners not only to furnish a competent master, but also a mate competent to succeed him in case of his death or disability.

5. Duty of Master—Excessive Cargo—Although a charter-party provides that the whole of a vessel shall be at the charterer's disposal, with the right to put on a full cargo, it is still the master's duty to determine when the limit of safe loading is reached, and, if an excessive cargo is put on board, the fault is that of the owners and not of the charterers.

6. Same—Exposure to Worms—If a full cargo will submerge the copper on a vessel so as to expose the hull to worms it is the master's duty to put on additional copper if it can be procured.

7. Same—Death of Master—Appointment by American Consul—The master of a vessel, being about to die on the gold coast of Africa and having no mate competent to succeed him, requested the master of another vessel, belonging to the same owners, to supply some one to take charge. This was done, and the person furnished was appointed master by the American consul. Held, that this gave him authority to act as such, and the owners were liable for his management.

8. Shipping—Limitation of Liability—Sale of Cargo by Master—The shipowners' limited liability act (Rev. St. U. S. § 4283) applies to an adjustifiable sale of cargo by the master on the coast of Africa after his vessel has been condemned as unseaworthy.

9. Extent of Liability—The extent of the liability being restricted by the act to the amount of the owner's interest in the vessel and the freight then pending this amount must be determined by taking the values at the termination of the voyage; and when a vessel is condemned and sold before reaching her final destination the extent of such liability is measured by her value at the time of the sale and the freight then due under the terms of the charter.

10. Same—Freight and Demurrage—The words "freight pending," as used in the act, include demurrage due at the termination of the voyage.

11. Same—Priority of Liens—Rights of Owners—The owners of a vessel cannot determine for themselves the priority of liens upon the fund representing their liability under the limited liability act (Rev. St. U. S. § 4283); and the fact that they have voluntarily paid out part of the fund in discharge of liens supposed to be superior to the claims provided for in the statute does not reduce their liability to discharge those claims to the full extent of the fund as it originally existed.

12. Same—Individual liability—Act Cong. June 26, 1884, c. 121, § 18, (23 St. p. 57,) providing that "the individual liability of a ship owner shall be limited to the proportion of any or all debts and liabilities that his individual share of the vessel bears to the whole," applies to the liability of owners under the limited liability act, (Rev. St. U. S. § 4283;) and to the extent of the fund representing their liability thereunder they are bound, not *in solido*, but only in proportion to their respective interests in the vessel.

13—Same—Suits to Enforce—Costs—When, in a suit to enforce the limited liability of the owners, the decree is against them, they are liable *in solido* for the costs.

UNION DRY DOCK CO. VS. THE F. E. SPINNER.

District Court, N. D. New York. December 29, 1891.

Maritime Lien—Salvage—Evidence—On a libel in rem against a vessel for the value of a chain used in raising her from the bottom of a river, it appeared that the libelant contracted by telegraph with a tug company to sell it the chain, and that he delivered the chain to a tug sent for it. He had no communication with the owners or master of the vessel, and there was nothing to show that he knew for what purpose the chain was wanted, except his testimony that he "supposed" and "inferred" that it was raising the sunken vessel. Six weeks after delivering the chain he wrote to the tug company referring to "our agreement," and proposing to draw for the price of the chain. Held, that there was no evidence to support either a maritime lien for supplies furnished or for salvage upon the vessel raised.

In Admiralty. Libel *in rem* by the Union Dry Dock Co. against the F. E. Spinner.

The libel alleges that on September 17, 1885, the libelant furnishsd and delivered 1,480 feet of steel chain, worth $863, to the steam propeller F. E. Spinner, at the request of her master and owners. That the libelant relied upon the credit of the vessel as well as that of the owners and master, and would not have furnished the chain except upon the credit of the vessel. That by reason of these facts the libelant acquired a lien upon the vessel for the value of the chain. The answer of the owner of the Spinner denies every allegation of the libel which seeks to charge the vessel with liability. On the 10th of Septe mber, 1885, the libelant received the following telegram:

"DETROIT, September 10, 1885.

"To Capt. M. M. Drake, Superintendent Union Dry Dock, Buffalo, N. Y.: Want to buy 800 or 900 feet two inch chain; understand you have it. What's your best price and terms? Answer quick. "DETROIT TUG AND TRANSIT CO."

This was followed by various telegrams and letters, which culminated in an agreement between the libelant and the Detroit Tug and Transit Co. as evidenced by the following telegrams:

BUFFALO, September 16, 1885.

"Detroit Tug and Transit Co., Detroit, Mich.: I will deliver to the tug you name on her arrival here the chain you speak of. My understanding is that you are to have this chain with the option of purchasing it, decision to be made and communicated to me by November 1, at a price of $40 per ton, or you are to have it for forty-five days at a rental of $500. Decision to be made as above, chain to be taken here without cost to us and returned here on same terms, if you choose to have it on rental, damage if any to be made good by you. All the above conditioned on my receipt from you at once of a telegram accepting above terms. "W. BULLARD."

On the same day the following answer was received:

"DETROIT, MICH., September 16, 1885.

"W. Bullard, Buffalo: Your telegram received; we accept terms and conditions stated therein about chains.

"DETROIT TUG AND TRANSIT CO.,
"S. A. MURPHY."

Mr. Bullard was the general manager of the libelant at Buffalo. Prior to the first telegram of September 10, 1885, the Spinner was lying sunk in the Sault Ste. Marie River. The chain was delivered on board a tug sent by the Detroit Tug & Transit Co. to Buffalo for that purpose, and was used in raising the Spinner by the Innternational Wrecking Co., which company had a contract to raise her with the insurers, to whom the wreck had been abandoned.

After the propeller had been raised, and on the 3d of November, 1885, the following letter was sent by Mr. Bullard:

BUFFALO, N. Y., November 3, 1885.

"Mr. S. A. Murphy, Prest. Det. Tug & Transit Co., Detroit, Mich.—Dear Sir: By terms of our agreement of September 16th you were to communicate to me by November 1st your decision as to whether you would pay rental of $500 for 45 days' use of steel chain loaned you or whether you would purchase same at $40 per ton. I have heard nothing from you in regard to the matter. Can I draw on you at sight for the value of the chain at the agreed price named above?

"Yours truly, W. BULLARD, Gen'l. Mgr."

This letter was never answered. The chain was not returned or paid for.

Josiah Cook for libellant; Sherman S. Rogers for respondent.

COXE, J. The libel cannot be sustained for salvage. There is neither allegation nor proof of a salvage service. The action is *in rem* to recover of the Spinner $863, the value of a chain furnished, as the libelant alleges, for the use and on the credit of the vessel and at the request of her master and owners. In order to recover the libelant must prove these allegations. It has wholly failed to do so. The contract was negotiated by telegram and letter. The master and owners of the vessel were not connected with it in any way. The only parties were the libelant on the one side and the Detroit Tug and Transit Co. on the other. The latter company hired the chain for forty-five days, agreeing to pay $500 rental with an option of purchase at $40 per ton if accepted prior to November 1. There is not the slightest allusion to the sunken propeller from one end of the correspondence to the other. There is nothin therein to indicate that the libelant knew for what purpose the chain was intended. The two persons who represented the libelant in the negotiations, Capt Drake and Mr. Bullard, testify that they "supposed" and "inferred" that the chain was to be used in raising the propeller, but neither of them says that it was furnished to the propeller "at the request of her master and owners and upon the credit of said vessel;" neither of them says that there was an intent on the part of the libelant, at any time, to hold the vessel responsible. Indeed, it appears that, six weeks after the delivery of the chain, the libelant still looked for payment to the tug and transit company, and to no one else. On the 3d of November, the libelant, addressing the tug and transit company, refers to "the terms of our agreement" and proposes to draw at sight for the value of the chain.

The contract is too plain to require a resort to inferences drawn from extraneous considerations; but were presumptions necessary or permissible it might be pertinent to inquire whether it is likely that the libelant intended to part with valuable property upon the credit of a foreign bottom, lying as an abandoned wreck, under 138 feet of Canadian water, 500 miles from Buffalo. The fact that individuals interested in the vessel were also connected with the tug company and the wrecking company does not avail the libelant. The evidence shows an agreement between the libelant and the tug company as clear and unmistakable in terms as can well be imagined. A finding that the libelant parted with its chain on the credit of the propeller or with intent to look to her in any contingency for payment, would be wholly unsupported by the proof. It is to be regretted that the libelant has lost its chain, but this is a result which usually follows where an irresponsible party has been trusted. The libel is dismissed, with costs. Fed. Rep., vol. 48.

THE FRYE BILL.

A special meeting of the Cleveland Vessel Owners' was held last Friday to consider Senate Bill No. 1755, requiring a more rigid inspection of lake vessels and demanding that certain appliances not now in use be attached to the machinery to insure greater safety to life and property. The meeting Friday took the form of an indignation meeting, the vessel owners thinking they had taken every possible precaution and that the Bill would prove injurious rather than otherwise to lake interests. The following resolutions were unanimously adopted:

Resolved that it is the sense of this meeting that Senate Bill No. 1755 is inimical to the shipping and commercial interests of the country and that a vigorous protest be filed with Congress against its passage.

"Resolved that the president appoint a committee to draft a suitable protest to be forwarded to the Senate and House of Representatives."

The same committee was continued to carry the resolution into active operation and a second resolution passed was as follows:

"Resolved that the secretary be requested to correspond with the Lake Carriers' Association and all other Associations of the different lake ports connected with marine and commercial interests and report the Association what action had been taken to defeat the passage of this bill."

The sentiment of all the members was that the provisions requiring the inspection of sailing vessels, and the rules for the inspection of boilers and engines were out of proportion to all that was reasonable as regards the exercise of Government power over the merchant marine for the safety of life and property. The Bill, while introduced by Senator Frye, was prepared by three officers of the revenue marine, who were appointed by the Secretary of the Treasury to consider the recommendations of the International Marine Conference.

The National Board of Steam Navigation, New York, engine and boiler builders, marine engineers organizations, masters and pilots associations and seemingly all maritime interests are opposed to the radical amendments contained in the Bill, which contains 116 pages and is too lengthy to re-produce in these columns. The requirements for masters and mates are not very stringent and entitles all men holding licenses to secure permanent certificates of servitude, but, calls for a higher grade of examination for to obtain licenses in the future. It is in the engineering and boiler making departments where the obnoxious clauses arise chiefly and these will not be tolerated by the vessel owners and builders of the country.

The United States delegates to the International Marine Conference endorsed the measures embodied in the Bill but the opposition already evidenced will prevent the Bill from being carried through Congress.

(ORGANIZED 1880.)

CLEVELAND VESSEL OWNERS' ASSOCIATION.

(Membership 1892.)

One hundred and sixty-three steamers, and One hundred and forty-four sail and barge, } Aggregating 298,127 tons.

Maintains shipping offices at Cleveland, Ashtabula Harbor, Fairport and Toledo. Regulates wages, protects crews and takes cognizance of all matters in the interest of the members and of the lake commerce generally.

OFFICERS:

H. M. HANNA, - - - - - - - - President.
M. A. BRADLEY, - - - - - - - Vice-President.
GEORGE P. MCKAY, - - - - - Secretary and Treasurer.
H. D. GOULDER, - - - - - - - Counsel.

MANAGERS OR ADVISORY BOARD:

H. M. Hanna, R. K. Winslow, Thomas Wilson, P. G. Minch, M. A. Bradley, W. D. Reese, Geo. P. McKay, J. H. Palmer, B. L. Pennington, W. C. Richardson, J. W. Moore, Jas. Corrigan, H. G. Dalton, H. H. Brown.

EXECUTIVE COMMITTEE:

H. M. Hanna, M. A. Bradley, Thomas Wilson, J. W. Moore, Geo. P. McKay, James Corrigan, B. L. Pennington.

THE MARINE RECORD.--Official Paper.

NEWS AROUND THE LAKES.

CLEVELAND, O.

The thirteenth annual report of the Floating Bethel will be mailed to any address by communicating with Chaplain Jones, 165 River street.

The barge Wm. McGregor, owned by the N. W. T. Co. and several others, have commenced loading coal ready for the early opening of navigation.

Capt. N. Bartlett, the G. M. W., leaves for Ashtabula Harbor next Monday to establish a meat market in the interests of his friends—the vesselmen.

Capt. A. C. Chapman has resigned his command in the Menominee Line and will act as agent and wrecking master for the American Steel Barge Co. at Sault Ste. Marie during the season of '92.

Capt. Arthur Wilson, who left the lakes last winter to try tht air in California, has just returned and will probably try lake sailing again. Many of our people return with the knowledge that the Great Lakes are good enough for them.

Congressman V. A. Taylor, in his recent speech before Congress in behalf of the lake interests, stated that by reference to census bulletin No. 66 it will be found that Cleveland, in vessel tonnage, ranks first on the lakes with 163,000 tons. Buffalo has 128,000 tons, and Chicago 71,-000 tons. Now take census bulletin No. 28, as to the lake commerce of the three cities names, and we find Chicago, 7,984,000 tons; Buffalo, 6,730,000 tons; Cleveland, 3,621,000 tons. And while all of this great disparity between tonnage built and owned at Cleveland and the commerce of the port can not be charged to inadequate harbor facilities, much of it can, and it would seem that in the figures shown enough could be found to prove that the people of the city of Cleveland by what they have done for themselves against the odds with which they have been forced to contend, have earned the right to more liberal recognition by the government.

Mr. W. H. Gilcher and daughters will be numbered among the tourists who will take advantage of the B. & O. Excursion leaving Columbus next Saturday for an extended trip through Florida and the sunny south.

The Ship Owners' Dry Docks are kept as busy as they can possibly be at these times, and dates are booked well ahead. The steamer C. J. Kershaw docked Wednesday for an extensive rebuild, following the Specular. The steel steamer Spokane is in the old dock for lengthening, a job that will take about thirty days to complete.

Chartering durirg the week has been very quiet with ore shippers and vessel brokers. A few boats have been placed during the past few days to carry ore from the head of Lake Superior to Lake Erie ports for the season, at the old rate, $1.25. No season contracts have been closed for Marquette, and there is little or nothing being done in the freight market at this time. A contract to deliver 26,000,000 feet of lumber at Buffalo from Marinette, Wis., has been secured for the steamer C. S. Curtiss and her consorts, and the schooner John O'Neill has been placed for the season at the present Lake Superior ore rate, however, the pickings are small, and beside a few coal charters secured, brokers might as well have been enjoying a Southern trip.

There is the May-day opening of navigation spoken of, but it is safe to say that just as soon as enough clear water to work a wheel is found, the ball will start rolling for the season.

BUFFALO, N. Y.

Special to the Marine Record.

Captain Alexander Clark, grand president of the Excelsior Marine Benevolent Association, visited Toledo on Tuesday to institute a new lodge of the order. He was assisted by Grand Secretary Collier of Cleveland. The Toledo lodge will begin with at least 28 charter members all of whom are masters in steam.

Shipping-Master Boyd, has got himself into rather warm water, after being fined $1,000 for shooting O'Brien last summer, he was let out on bail pending an appeal. The general opinion was in his favor at that time, but now he has seriously prejudiced his case by getting into a row with a disreputable woman, stealing her diamonds and pawning them. He is now charged with grand larceny in the second degree and is in jail, it being understood that his former bondsmen Capt. M. M. Drake and Captain J. J. H. Brown have concluded that he is safer in jail than out, and refused to go on his bond in this case. Mr. Boyd should brace up, he is a good man for his place if he behaves himself.

The new excursion boat which Murphy is building will be ready to launch April 1. She is being built in a narrow slip opening into the canal and it is thought that it will be something of a job to get her afloat. There are two wooden abutments at the outlet of the slip, the distance between them being 26 feet, while the new boat is 30 feet beam. The water in the slip will have to be three feet higher than it now is, to float her. She is constructed of Kentucky oak, and is the first vessel from this port to be built of that material. She is being strongly built and is expected to run 17 or 18 miles an hour. This is the first vessel of size that Mr. Murphy, whose forte is in canal boat building, has attempted, and he says she is going to be a winner. Her cost will be $35,000.

The gentleman who held the survey on barge 116 which was found on unloading to have over 5,000 bushels of wet wheat, came to a most comfortable conclusion. They said the grain was wet, but how it got wet they haven't the slightest idea, as the vessel did not leak. It will be hard to decide who will have to stand the loss. The damaged grain was sold for 25 cents a bushel.

The harbor already shows signs of the activity which will come before long; one White Line and one Black Line tug are already in commission and vessels are begining to move to different berths.

The vesselmen are praying for higher water and though it is very low now the general opinion is that the severe winter will give a better depth next season. Supt. Drake of the Lackawanna told THE MARINE RECORD man that several talks with General O. M. Poe, has led him to hope for higher water. Captain Drake though not over sanguine about the freight outlook says that the prospect is in every way better than it was a year ago. Contracts for carrying grain from Duluth have been made at from 20 to 25 per cent better rates than in 1891. The first part of the season will be busy, but the size of the grain crop will determine the amount of business both in the summer and fall.

C. H. Woodruff, who was relieved of the management of the Hollister Transportation Co.'s fleet has been made secretary of the company and Captain Edward Smith of Brown & Co. will take care of the Emily P. Weed and the Pringle and tow, in his place.

The new tugs for the White and Black Lines are now in frame and the Anchor Line steamer Codorus is nearly complete in the hull.

Captain O'Neill, who owns a small floating dry dock here, is going to build a new one which will be capable of receiving boats up to 125 feet in length and 35 feet in beam.

The Anchor Line, are going to greatly enlarge their docks on the Blackwell canal.

There is a scheme on foot to have all the excursion boats leave from the foot of Porter avenue next season and a large dock may be built there.

The Buffalo & Niagara River Navigation Co. have lately purchased at Boston the side wheel steamer William Harrison which formerly ran between New York and Perth Amboy. She is 160 feet long and 26 feet beam with 46 feet width outside of her guards. The steamer will as soon as possible leave Boston for Buffalo via the Atlantic, St. Lawrence River, Lake Ontario and Welland canal. The William Harrison has a speed of 14 miles an hour and will run in connection with the Shrewsbury next season.

TORONTO, ONT.

Special to The Marine Record.

The schooner Gleniffer, that went ashore at Mimico two years ago and was released by Baker Bros. last summer, was sold by auction last week, the purchaser being Mr. Nesbitt, who has the contract for supplying the Grand Trunk with coal at Pt. Edward, $850 was paid for her.

The shareholders of the British American Assurance Co. had their fifty-eighth annual meeting at the head office in this city last week. A large amount of business was done during the year, as shown by the directors' report, the marine branch being very profitable both in Canada and the United States, this being in a great measure due to the energetic management of Mr. J. J. Higman who has charge of this particular branch.

Mr. David Blain, who is greatly interested in the building of the Hurontario ship-railway between Toronto and Georgian Bay, was in Buffalo recently and interviewed Senator Hoar, chairman of the Foreign Relations Committee of the American Senate. That gentleman assured him that the Hurontario railway scheme was reckoned in almost all calculations for the improvement of the shipping facilities of the lakes. Mr. Blain also laid before Hon. John Haggart, Minister of Railways and Canals the question as to how far the Dominion Government would be justified in co-operating with the American Government in the furtherance of such enterprise. The matter, therefore, is under the notice of both governments. Mr. Blain is busy also at the Local House. There he has entrusted the member for North York, the promotion of a Bill for certain important amendments of the orignal charter of the company. The company now enjoys the right to lay their tracks, and Mr. Blain asks to have its powers enlarged so that the first track may be bonded as soon as completed, the revenue applied to the further works of construction, and the second and third tracks built, bonded and operated as required. Several other changes of a more or less important nature are proposed.

Circulars have been issued by the Marine Department notifying steamboat inspectors that when making their annual inspection of steamers that "no compass will be considered in good condition in an iron or composite ship or in a wooden ship when within 25 feet of any mass of iron, such as funnel, engine or boiler, unless accompanied by an adjuster's certificate dated not less than two years previous to the inspection, or by a card of deviations showing the errors, such card to be certified by the Master as having been proved correct." This question was discussed at the recent meeting of the Canadian Marine Association, and is looked on by steamboat owners as a great hardship when applied to steamers running in narrow waters, or on those running constantly on one route where the same courses have been used for several years and always successfully. Efforts are being made to have the order either rescinded altogether or only made applicable to steamers trading on the Great Lakes.

In the suit arising out of the collision between the yacht Widgeon and the steamer Eurydice, an account of which appeared in a former issue of THE MARINE RECORD. Judge Morgan has decided to dismiss the action owing to the inability of the jury to answer the questions he put to them, and which virtually meant a disagreement on their part. No further action has as yet been taken by either parties toward any settlement.

Capt. Archie Kerr died at Orillia last week of pneumonia. He sailed on the lakes for 40 years, and was known in every port from Kingston to Midland.

Mr. S. T. Mathews, of the firm of J. & J. T. Mathews, vessel-owners of this city, left for a trip to Washington last week. He intends visiting several of the southern cities and we hope he will have a pleasant trip, coming back with renewed vigor to carry on next season's business.

Capt. J. T. Towers, of the propeller Ocean, was in the city on Monday on the way to Kingston, whither he has been called by the serious illness of his mother.

Capt. H. O. Jackson left for a visit to the Eastern States. He goes via New York, where he intends to spend some days in taking in the sights of that city.

Capt. Sandy Irving, who has had charge of the steamer Modjeska for the past three years, has been appointed to the command of the steamer Sir S.L. Tilley. Capt. Sharpe, late of the tug Wales, takes charge of the Modjeska.

Capt. Foote, who commanded the C. P. R. steamer Athabasca ever since the opening out of the line, has received notice from the management that his services will not be required henceforth. The cause of the dismissal is presumably the sinking of the steamer Pontiac, by the Athabasca, in the Sault River last season. This is the only accident Capt. Foote has had since he went into the C. P. R. employ. He has been more steadily in the employ of the company than any other of its captains, and his reputation in marine circles is that of a brave and skilful lake navigator. Great sympathy is expressed for him by the brethren of the craft, and by the citizens of Owen Sound, who have held him in the highest regard for years.

SPARTA.

ALPENA, MICH.

Special to The Marine Record.

The Marine Club is simply flourishing and a good attendance is maintained, especially so during the recent cold snap. There is plenty of snow here and the docks are being well filled with cedar ties ready for shipment The barge Lathrop has underwent a thorough overhauling and a new mast will be stepped in the place of the one she lost last fall in Saginaw Bay. The steambarge Westford is receiving new decks, pilot house, texas and new cabin; the barge Monitor, new decks and new stern; steambarge Porter Chamberlain is getting new cabin, rail and stanchions; steambarge Hall calked from light water line to rail, and having her boiler overhauled. The outlook for a brisk season is considered very promising here, and the fleet in winter quarters are being put in first-class shape for work.

Comstock & Co. have sold the steamer Niko and consort Churchill, to a Chicago syndicate, of which J. J. Ward is president. The deal, I believe, was made through Capt. C. A. Richardson of this port, and while the exact figures have not yet been ascertained; $100,000 is quoted as being

near the amount. Inland Lloyds' vessel register for 1891 gives an insurance valuation on the Niko at $70,000, and on the Churchill $42,000, a total of $112,000; this is an indication that tonnage is not at a premium just now. Mullerweis, the marine supply dealer at this port, has sold one half of his scow, Aunt Ruth for $1250, after settling satisfactorily the collision suit which was pending between the scow and propeller John Mitchell.

The large fish tug Wayne Isabell, is hauled out at Gilchrist's yard, and is having a thorough rebuild.

Log towing will be carried on to some extent this season, and the logs will be kept in booms at White Fish Bay Squaw Bay and Thunder Bay until wanted at the mill.

MARINE CITY, MICH.

Special to The Marine Record.

N. & B. Mills, of Marysville, Mich., are building at Holland's yard, in Marine City, a steambarge and schooner which are expected to be ready for business when navigation opens. Alex. Anderson, of Marine City, is builder. Your Algonac correspondent, by a slip of the pen, no doubt, in issue of February 4th., gave to Mr. Langell the credit of building these boats. Anderson has achieved the reputation of being a first-class builder, as your correspondent says, and his boats turned out in the past few years, among which are the P. J. Ralph, Newyago and F. W. Fletcher, are evidence that it is well earned. These two now on the stocks will be built on the same general lines as the Newyago, staunch as wood and iron can make them, having heavy iron floor templates bolted between each alternate set of floor timbers, running full width of the boat and catching the bilge, diagonal strapped and corded. The owners desire to have the name of builder corrected, out of just appreciation of the energy, judgment and careful attention to details bestowed by Mr. Anderson upon his work.

Appointments made for the coming season for boats running out of this port are as follows: steamer J. E. Mills, Capt. T. A. Ellery; Point Abino, Capt. George McCoy; steamer Thomas R. Scott, Capt- J. H. Warwick. Capt. Harvey Kendall will pull the bells on a new steambarge building at Marine City. Other appointments not yet made.

DETROIT, MICH.

Special to The Marine Record.

The works of the Davis Boat & Ore Co., are very busy at this time. Among the boats now on the stocks at Detroit are two handsome steam yachts—the Catherine and the Ypsilanti. The Catherine is being built for Michael Cudahy, a Chicago millionaire, and measures 76 feet over all, with 18 feet beam and 8 feet depth of hold. In addition to steam power, she will be full schooner rigged. The Ypsilanti is building for W. H. Williams of Pittsburgh. She is 48 feet in length, with a beam of only 7½ feet, and is to have a guaranteed speed of 18 miles an hour. Recent orders have also been filled for parties in Mexico, Australia and Cuba.

Two cadets to West Point have been appointed from this city recently, their names are Walter G. Amos and Horatio J. Lawrence.

The Anchor Line propeller Conemaugh has about completed her repairs at this port. She was sunk in Detroit River by the Union Liner New York last fall. The trial of this collision suit will prove a most interesting one to vesselmen.

CHICAGO, ILLS.

Special to The Marine Record.

The General Marine Insurance Co. of Dresden, represented by P. H. Fleming & Co., has complied with the laws of the State of Illinois and a license has been issued to the same company and applications are being filed for departments at Michigan, Wisconsin and Minnesota.

A life size crayon portrait of Capt. James Hogan, First President of E. M. B. A. No. 3, Chicago, has been placed in the lodge room of the association in honor of their worthy and much esteemed First President.

The schooner Elgin was sold last week for $2,500.

Keith & Carr chartered the schooner A. Mosher Tuesday for corn to Port Huron at 2⅝ cents.

Capt. Thomas Howland was initiated a member of the E. M. B. A. No. 2, Chicago, at a meeting of the association last week.

Peter Collins, formerly with John Ford, will the coming season represent the firm of James Magner & Co., vessel supply men, as their agent, and will be around looking up business among the vesselmen as usual.

P. H. Fleming returned Monday from a brief vacation. He will continue to represent the General Marine, Union Marine and some additional companies.

At Miller Bros. shipyard the steel steamer Scranton, went out of dock Monday after receiving considerable repairs to her bottom. The steel steamer Viking took her place in dock and will receive a new shoe. The schooner C. J. Magill, which has received an extensive rebuild, went out of dock Tuesday and her place was taken by the schooner American Union, which will receive new steel arches and necessary repairs.

Capt. James Sinclair, superintendent of the Dunham Towing and Wrecking Co., returned last Saturday from a three weeks' vacation in the East.

Capt. Nelson, of the steamer George T. Hope, has returned to Chicago.

Capt. William Williams, of the schooner Joseph Paige, is visiting in Chicago this week.

Capt. A. L. Fitch is away on a visit to Detroit.

Capt. M. L. Edwards, owner of the schooner Cascade commenced suit in the United States Court Tuesday against the City of Chicago for damages amounting to $4,186 for repairs and loss of time while the schooner was undergoing repairs. The Cascade was at a dock near the North avenue bridge December 19, 1890, when the fireboat Yosemite collided with her, doing considerable damage, hence the suit.

George C. Finney, shipchandler, is away on a vacation in the South.

The steamer Peerless has received extensive repairs, amounting to nearly $10,000. Work on her will be completed this week.

Capt. Ira Mansfield is here looking after the loading of the steamer Brittanic, which was chartered by Capt. John Prindiville last week for 61,000 bushels of wheat to Buffalo at 3¾ cents.

W. M. Egan chartered the steamer Pickands last week for 65,000 bushels of wheat to Buffalo at 3½ cents.

Elphicke & Co. chartered the steamers Escanaba and Argonaut for wheat to Buffalo at three and a half cents, also the schooner Granger for oats to Port Huron p t.

Capt. Peter Falcon returned to Chicago from Detroit Saturday, where he had placed the steamer Kasota in the Detroit Dry Dock Co.'s large dock last Thanksgiving day after raising her and her cargo of 2,000 tons of iron ore out of the Detroit river, where she was sunk by collision with the steamer City of Cleveland in July 1890. The immense weight of her cargo caused her to break in two when sinking. She being cut through the center 40 feet long 20 feet deep, the raising occupied 59 days, and 144 large casks, averaging 35 barrels each, were used to raise her. Capt. Falcon feels very proud of the great work accomplished, he has received very gratifying testimonials and letters from many parties interested, and our old friend feels very happy at the successful issue of his labor.

The rebuild of the Kasota by the Detroit Dry Dock Co. is now nearly completed.

The Chicago Stock Yards Market Co. had a grand opening day on Saturday at their meat market at 335 5th avenue. Capt. James Ferguson was busy all day taking along his many friends to visit the market, where was shown a large stock of fine meats. J. B. Rhuland, general manager, and Herbert Smith, assistant, were untiring in their efforts to please their many visitors and show them their excellent cold storage vaults and their splendid stock of meats of all kinds.

WILLIAMS.

A GREAT WRECKING FEAT.

The repairs on the steamer Kasota are progressing rapidly. The work of raising her hull from the Detroit River began August 2, 1891. She was floated into shoal water October 10, partially repaired and put in the new great Detroit Dry Dock November 25, same year.

At the time of sinking she had on board 2,000 tons of iron ore. All but 150 tons were removed before the work of raising her was begun.

It will be remembered that the Kasota was run down by the passenger boat The City of Detroit, making a hole in her side forty feet wide, tapering to the bilge, which caused her to sink almost instantly. The keelsons and sister keelsons, composed of fifteen huge oak timbers, were broken in two and drawn apart six inches, making her limber and difficult to raise.

Peter E. Falcon, of Chicago, the contractor for raising the wreck, a man who has had forty years experience in this line of business, was obliged to use much caution in distributing the lifting power to prevent her from pulling apart, she being held together by broken fragments. He labored under many difficulties, owing to the nature of the cargo, the strong current, the constant passing of large boats, etc.

We, the undersigned, assert that it is the most skillful piece of sub-marine engineering in wrecking ever done on the chain of the Great Lakes, and express our unqualified approbation of his ability as a wrecking master.

DAVID CARTER, Gen'l. Mg'r. The D. & C. S. N. Co.
FRANK E. KIRBY, Consulting Eng'r. D. D. D. Co.
JOHN C. PARKER, Superintendent D. D. D. Co.
JAMES MCMILLAN, Manager The D. T. Co.
A. A. PARKER, Manager.
GEORGE L. MCCURDY, Mgr. Lake Marine Department, Insurance Company of North America.

DULUTH, MINN.,

Special to The Marine Record.

The Duluth Mesaba and Northern road intend building a large ore dock and have already secured the right of way. The new docks will consume about 3,500,000 feet of timber will have have a shipping capacity of 1,000,000 tons a year and will cost $200,000. It is expected that next year the docks will have to be doubled.

The tug John McKay, Jr., is undergoing a thorough rebuild and will receive a new boiler built by McGregor of this port, James McGee is also rebuilding two small tugs, the Duluth Sand & Tile Co., will have a boat launched about April 15th. All of the above work is being done at N. Grignon's yards here.

There is a bill before Congress at the present time proposing to consolidate the customs district at the head of Lake Superior into the district of Duluth, which if it will pass may do away with much of the annoyance vessel men are subjected to by the fact that the port of Superior is in the district of Marquette, 250 miles away. The maritime interests of Duluth and Superior are identical and the two places located on the same bay and harbor should not be so cut out by divisional lines of customs districts that a vessel cannot steam across the bay or take part cargo at an elevator or dock in one place and part in the other, only after taking out duplex papers at rival custom houses. The present system absolutely prevents accuracy in the keeping of statistics, entails useless labor both on vessel men and Government officials, and is altogether undesirable. The new bill makes two collection districts in Minnesota, one called the "District of Minnesota including all the State but the shores of the lake, with headquarters at St. Paul and a subport at St. Vincent on the northern boundary and the other the "District of Duluth," including all the shores of Lake Superior, from and including Ashland around to Duluth, as well as all the present district of Duluth. Ashland is a port of delivery and Superior a sub-port, both with a deputy collector. Superior is utterly opposed to making the change though I think it is advantaged greatly by the change.

The Duluth Imperial Mill Co. has contracted with the steamer Emily P. Weed for a cargo of flour to be taken down at the opening of navigation, 24,000 barrels at $2.20 a ton. The Weed took down a cargo for the same mill at the opening last year at $1.60 a ton. Besides the Weed, the mill people will load several whalebacks at the opening and expects to make a contract with one of the Ward Liners. It had a season contract with the old Ward Line last fall that netted it, so it is said $50,000 in the late months of the season when freights were high. The mill company will be grinding 6,500 barrels a day by the opening and talks of building a second mill, to grind 7,000 a day.

A good deal of wheat is contracted for early delivery at Buffalo at a 4 cent rate, after the first trip, and quite a large share of the Minnesota Iron Co.'s ore tonnage outside of its own boats, is said to be placed. The Iron Co. will ship about 1,200,000 tons during the season, and its railway, the Duluth and Iron Range, is endeavoring to make contracts with the new Mesaba range mines offering to have its branch line built to them by July. The owners of these mines are mostly interested in the Duluth Mesaba & Northern road, however, and do not take kindly to the advances of the Iron Range. It may be put down as settled that the Mountain Iron, Pewabic, Cincinnati, Hale, Shaw and Great Northern mines will ship over the Mesaba road, while the Canton and perhaps a few others over the Duluth & Iron Range. Work on the Mesaba's new ore docks at this city will begin in a week or two.

Captain B. B. Inman, of the Inman tug fleet, has bought lots on Minnesota point below the canal and will establish a shipyard, repair and machine shop and headquarters there. He will change his headquarters from his present location, as the Duluth Roller Mill Co. want the room for an increase in capacity from 300 to 1,000 barrels. The captain will have one of the finest tug fleets on the lakes this year. There will be about 25 large tugs here this season, and the vessel as well as the tug towing business will be larger than ever.

D. E. W.

FLOTSAM JETSAM AND LAGAN.

A bill to fix the compensation of keepers and crews of life-saving stations has passed the Senate, granting to keepers of life-saving stations, except stations known as houses of refuge, $600 per year, and members of the crews of stations are to be paid $65 per month during the time the stations are manned.

The Polson Iron Works, of Owen Sound, Ont. have been negotiating with a Swedish firm for the manufacture of a turtle back steamer similar in design to the MacDougal whalebacks.

Capt. Leon of the schooner John O'Neill who is an inveterate joker and withal somewhat of a navigator, swamped the horse editor of the RECORD by springing on him the following query: "If a canal boat heading E. S. E. was struck with a heavy squall from the westward and directly parallel with the tail of the towing mule, would the captain be justified in taking a reef in the stovepipe without consulting the cook?"

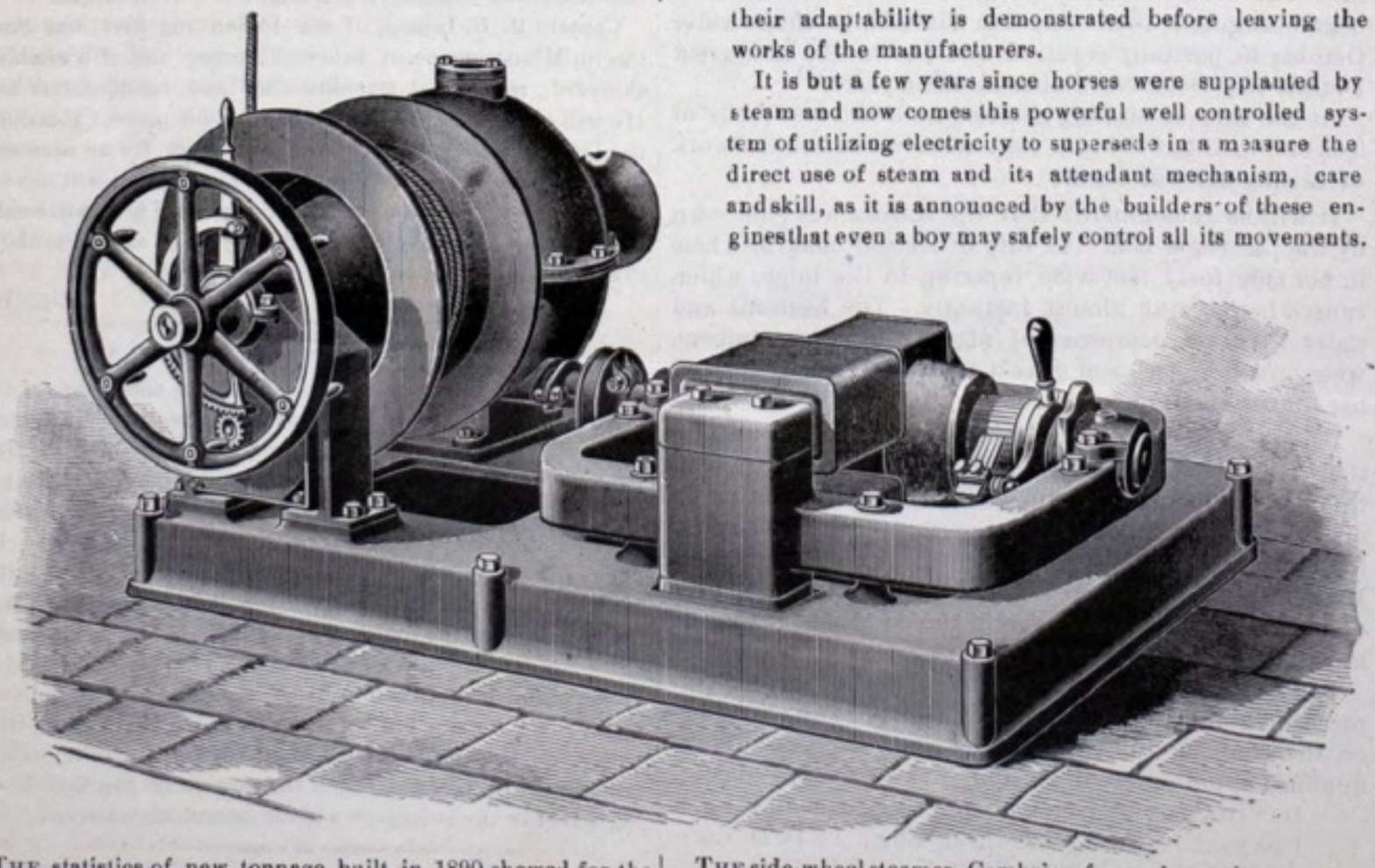
Lieutenant Percy W. Thompson, U. S. R. M., describes in the February *Scribner* the work of the Revenue Cutter Service in relieving vessels in distress, and Samuel A. Wood tells of some brave rescues, the whole being a remarkable record of personal heroism.

GREAT BODIES OF FRESH WATER.

Geographers claim that there are 25 rivers on the globe which have a total length each of over 1,000 miles. Of these, two, the Mississippi from the source of the Missouri in the Rocky Mountains to the Eads Jetties, and the Amazon from the source of the Beni to the Isle of Marajo, are over 4,000 miles in length. To be exact, the former is 4,300 and the latter 4,029 miles from the source to the places where their waters are mingled with those of the ocean. Four claim a total length of over 3,000 and under 4,000, They are the Yenisei in Asia, length 3,580; the Kiang, Asia, length 3,900; the Nile, Africa, 3,240, and the Hoang-ho, Asia, which is 3,040 miles. Seven streams on the globe are under 3,000 and over 2,000 miles in length, the Volga in Russia and the Amoor in Asia, each being 2,500 miles in length; two are 2,800 miles long, the Mackensie in British America and the Platte in South America. The Rio Bravo in North America, the Rio Madeira in South America, and the Niger in Africa are each 2,300 miles from end to end. The Arkansas river just comes inside of this 2,000-mile limit. Ten of the great rivers of the world are over 1,000 and under 2,000 miles in length. Three of these are in North America, the Red river 1,520, Ohio 1,480, and the St. Lawrence 1,450. South America has also three in this list, the Rio Negro 1,650, Oronoco 1,600, and the Uruguay 1,100 miles. Asia has three in the same list, the Euphrates 1,900 miles, and the Tigris and Ganges, each of which is about 1,300 miles. In the group of great rivers, the St. Lawrence is the most remarkable. It constitutes by far the largest body of fresh water in the world. If we include the great lakes and tributary rivers, with the St. Lawrence system, as they cover about 73,000 square miles; the aggregate represents not less than 9,000 solid miles of water. The unthinkable size of this mass may be better comprehended when we consider the figures of Professor Cyrus C. Dinwidde, who says that it would take over forty years for this entire mass to pour over Niagara at the computed rate of 1,'00,000 cubic feet per second.

VESSEL TRANSFERS.

The following vessel transfers in the district of Port Huron, Mich., have been recorded at the customs house since the close of navigation: C. C. Henning to H. Still, steamer Wm. Cowie, $1,400; E. C. Recor to T. C. Laster, 1-12 of steamer F. W. Fletcher, $4.166; J. Hall to J. C. Garry, et al, ⅓ of barge D. H. Keys, $1,000; J. C. Garry to K. M. Hawley, 1-12 of schooner Conrad Reid, $400; Alfred Mitchell to Edward Gey, one fifteenth of schooner Angus Smith, $1,000; James Reid to Wm. H. Keenan and W. H. Gilbert, the whole of barge L. W. Drake, $3,000; The Jenks Shipbuilding Co. to H. E. Runnels and D. M. Sinclair, the steamer O. O. Carpenter $26,000; Frank A. Hubbard to N. Barkell, the schooner Montana; E. E. Bradley to Michigan Log Towing Co., tug Maud S., $4,000; A. Meswald to F. Kirker, ⅓ of schooner Wm. Brake $1,500; Marry Webb to Thomas Fish, one-half of schooner Margaret R. Goffe, $1,000; H. G. Barnum to W. F. Botsford, one-eighth of steamer Colorado, $2,500; H. Howard to T. R. Wright, one-fourth of steamer Colorado, $5,000; F. P. Chesbrough to Calkin & Stickney, all of tug Grayling, $2,000; G. K. Jackson et al to H. N. Loud, eleven-twelfths of schooner Montgomery, $9,166; Sitley Land Co. (Chicago) to James J. Lynn and C. D. Thompson, tug F. H. Stanwood, $1,200; W. Anderson to M. P. Scott, one-fifth interest of steamer Tempest, $3,000



THE statistics of new tonnage built in 1890 showed for the whole country 294,122 tons, for the Great Lakes 108,525 tons and for the city of Cleveland 39,095 tons. That is, Cleveland built 13 per cent of the tonnage of the whole country, and over 36 per cent on the Great Lakes. Cleveland outranks both Philadelphia and Bath, Me., which are known the world over as shipbuilding ports.

ger or to facilitate the movements of vessels. While I have had but brief experience in this lighthouse district and have been unable to become familiar with the exact conditions and necessities for each location for which additional aids are indicated in Senate bill No. 1627, yet in view of the reports and study of the charts in connection with representations from the Lake Carriers' Association and the Cleveland Vessel Owners' Association, I am unable to concur in the restricted recommendations submitted by Commander Woodward and am, therefore, constrained to submit separate reports."

The report recommends duplicate fog whistles, an outfit which is highly necessary and customary in all cases on the sea coast, concurs with Commander Woodward's report in several instances and makes alterations and improvements in others, asks for a lightship of suitable model and equipment to replace the private lightship maintained at Bar Point, for range lights at the Lime Kiln Crossing, and makes an excellent departure in advocating a red sector to show over certain ranges, as follows:

On Grosse Isle, Detroit River—Range light to center of channel from the foot of Fighting Island to Mamajuda light. "The middle of the channel from Ballard's reef to the south end of Fighting Island is now marked by a range on Grosse Isle. The Mamajuda light is but about a mile above the point where that range leaves the middle of the channel. It is my opinion that a suitable ruby panel introduced in the lantern of the Mamajuda light would sufficiently mark the turning point and avoid the necessity for the new range proposed."

On the north end of Mamajuda —A light to range with the present light on Mamajuda Island to mark the channel between Grassy and Mamajuda islands. "In this instance, as in the one already mentioned, the distance to be marked is short, and I believe that the introduction of a narrow ruby panel in the lantern of Mamajuda light would sufficiently mark the shoals between Grassy and Mamajuda islands. It is understood that the proper range lights above Grosse Isle are not in this district." Colonel Smith has had a wide experience both on the lakes and sea coast, his recommendations are well timed and to the point, and being strictly conservative in his estimetes it is to be hoped that the Lighthouse Board will endorse all that is asked for in his report.

ELECTRIC HOISTING ENGINES.

ONE OF THE MOST RECENT DEVICES USED for hoisting purposes has just been placed on the market by the American Electric Elevator Co., 15 Cortlandt street, New York, and, as is shown in the accompanying illustration, the hoist is simple in its construction, efficient and durable, and a ten horse power hoist can be assembled upon a bed plate five feet ten and one-half inches by two feet nine and one-quarter inches, and from the bottom of the bed plate to the highest point on the machine (the switch lever when in a vertical position) is but three feet seven and one-half inches. It may be placed on an overhead platform if desired, so that it occupies no dock or deck room whatever,

The operator can reverse the hoist when loaded and each action of the machine is positive in hoisting, stopping and lowering. The hoists may be fitted on every vessel carrying an electric light installation, and it is expected that a large number of the machines will be fitted at an early date on docks wharves, warehouses, steamers etc.

The transmission of power by electricity has called into use these special engines for all hoisting purposes, and their adaptability is demonstrated before leaving the works of the manufacturers.

It is but a few years since horses were supplanted by steam and now comes this powerful well controlled system of utilizing electricity to supersede in a measure the direct use of steam and its attendant mechanism, care and skill, as it is announced by the builders of these engines that even a boy may safely control all its movements.

THE side-wheel steamer Cambria, formerly on the route between Owen Sound and Sault Ste. Marie, has been sold by the liquidators of the Dry Dock Co., her owners, to a Port Arthur company composed of Messrs. Thomas Marks, S. W. Ray, Wiley & Co., William C. Dobie, and others. She will receive a thorough overhauling and repairing, after which she will be placed on the route from Port Arthur to Duiuth. The price paid was $7,500.

Notes.

THE report of Surgeon-General Wyman, of the Marine Hospital Service, shows that during the fiscal year 1891 physical examinations were made at the request of the Life Saving Service, the Steamboat Inspection Service and the Revenue Marine, amounting to 2,558, and for 174 seamen of the Merchant Service. Out of the latter 27 were rejected.

Collectors of customs are directed to report, after January 1, 1892, to the Supervising Inspector-General, Steamboat Inspection Service, on a separate sheet of blank form, Catalogue No. 240, all foreign steam vessels whose certificates have been filed in their office during the quarter. Special inspectors of foreign steam vessels will also report to the Supervising Inspector-General at the end of each quarter, on blank form 2117, the names of all foreign steamers inspected during the quarter, with other data required in the blank form referred to.

The Boston, Mass. Commercial Bulletin, in a recent issue giving a review of prominent American industries, had the following to say regarding a well-known manufactory of marine appliances: "The demands made upon the American Ship Windlass Co., Providence, increase so regularly that they are obliged to enlarge their facilities almost yearly. The latest addition is a solidly constructed shop 112 x 64 feet, which will be used for erecting heavy work. It is supplied with a twenty ton electric overhead traveling crane, the power being furnished by the Thomson Houston system. There is a seventy-two inch engine lathe thirty feet long, a seven-foot radial drill, but there is very little machinery in the room. The floor is specially solid, the timbers being placed on a concrete bed, and on three-inch boards is laid a flooring of inch and a quarter rock maple, making a splendid surface. The building is heated by the Sturtevant blower system, is well lighted throughout and is complete in all its appointments. This company is now making fifteen windlasses for various cities on the lakes, as well as for the 'New York' and 'No. 12' and 'No. 13,' now being constructed by Cramp & Sons; the second named is planned to be the fastest war vessel afloat. They are also making windlasses for the battle-ships 'Massachussetts' and 'Indiana,' and for the United States monitor 'Amphitrite'. Thirty two of the 184 pages of their fine catalogue just issued is devoted to an enumeration of the ships, yachts, etc., using their windlasses. The book contains a large fund of information of interest to ship owners and builders. For twenty years Cramp & Sons have used no other work, and for nearly the same period the remark is true of the Morgan Iron Works. They have work enough on hand to last them in the neighborhood of six months, notwithstanding the enlargement of their facilities.

THE prospects of the passage of the Revenue Transfer bill are becoming less and less encouraging as the session progresses. With a portion of the Navy opposed to any change whatever, another portion against the feature of the bill which contemplates an amalgamation of the officers of the two services, and the Secretary of the Treasury opposed to the proposition in its entirety, it is hardly reasonable to expect favorable action, not to speak of the difference in the political complexion of the two Houses. In response to a House resolution, Acting Secretary Spaulding states that the Department considers that the present system affords better protection to the revenue than would be possible if the admistration of the Revenue Marine Service should be divided between the Navy and Treasury Departments. In view of the opposition that has thus developed, the Senate Naval Committee has delayed final action in the bill, with the view to framing some measure that will provoke less antagonism than the pending bill. The testimony taken before the committee is being printed, and will be carefully read and digested before any action is taken.—*Army and Navy Journal.*

THE Bucyrus Steam Shovel and Dredge Co. will remove there extensive works from Bucyrus, Ohio, to Milwaukee, Wis. about July 1st. The firm are just now crowded with orders, including some large contracts from the United States Government.

AIDS TO NAVIGATION.

Lieutenant Colonel Jared A. Smith, United States Engineer of the Tenth Lighthouse District, has completed his report to the Lighthouse Board on the proposed improvements in lights on Lakes Erie, Ontario and Detroit river. Colonel Smith disagrees with Commander Edwin T. Woodward, of the United States Navy, inspector of lighthouses in the Tenth district, in several important cases. His recommendations are more liberal, and he found it necessary to make a separate report. The cases mentioned in the report are propositions embodied in Senate Bill No. 1627. It was referred to the Lighthouse Board, and that body referred the matter to Colonel Smith for his opinion on January 19. He had a conference with Commander Woodward and received a statement from the Lake Carriers' Association. Colonel Smith's judicious recommendations will doubtless be received with favor by the Cleveland Vessel Owners' Association and others interested in securing better aids to navigation.

In the report Colonel Smith says: "In view of the vast commerce which traverses lakes Erie and Ontario, of the class of vessels, and of the methods necessarily employed in navigation, it appears to be more than desirable that additional aidss hould be provided at various points either to avoid dan-

Correspondence.

☞ We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine hould be fairly represented in THE MARINE RECORD.

DEEPENING THE CANALS.

TORONTO, Ont., February 22, 1892.

To the Editor of The Marine Record.

It is gratifying to see that the question of deepening the St. Lawrence and Welland Canals has at long last come prominently forward.

Discharging my duties, I am brought much into contact with prominent marine men of Canada. There is a unanimous consensus of opinion in favor of the project, though some few unenterprising commercial men of this land look upon the scheme as visionary and impracticable.

In conversation with Capt. David Sylvester of this port, one of our most experienced lake navigators, and a member of the firm of Sylvester Bros., vessel-owners and wharfingers, he told me that he was glad to see a start in the right direction had been made by American vesselmen. He would have preferred that Canadian marine men should take the initiative, but thought that as the United States marine interest was much greater their action would probably carry mo re weight. For every bushel and ton of freight that Canadian-owned craft carry to the east, ten are conveyed by American vessels; accordingly Capt. Sylvester thinks that the major portion of the expense should fall upon the United States Government. He suggests that the money accrued from the Alabama claims might be used as part.

Opposition to the deepening of the canals comes from Buffalo on the American side, and from Montreal in Canada, because of the transhipping business. They have a bonanza handling coast-bound goods and imports. Though these cities may suffer somewhat; they will have as fair a chance as any other port of call on the lakes. Perhaps that dead-alive ditch the Erie canal, would lose some trade; and in here comes another thought:

The Americans would that the Canadian Government should remove the canal tolls for all vessels alike, while the United States will not permit a Canadian-bottom boat to carry a cargo through any one of their canals. To allow United States vessels the rebate would be a dire discrimination against our own shipping. As the laws stand now, if a Canadian craft arrive at Buffalo with a load for, let us say New York, and wishes to proceed through the Erie Canal a stopper is put on her.

"If you wish to go through light," says the United States official at that point, "I will give you a clearance and allow you to proceed; laden, you cannot move!"

An American vessel must be chartered to take the cargo through, or it must be sent on by rail. Again Canadian-bottoms cannot trade between two American ports, and *aice versa* then why should not the laws extend to railroads as well? Rolling stock built and owned in Canada or the United States may traffic in either country unmolested.

There is no gainsaying that had not steam superseded sail for the purpose of freight-carrying craft, Quebec would have remained the port of entry and departure for Canada. But steam is a power which narrow waterways cannot annul, so business went further up the St. Lawrence to Montreal. At much expense the river channel was improved and deepened; ergo, after Montreal has secured the manipulating of so large a volume of sea traffic, she is not going to countenance a scheme which shall carry the trade past her wharves to ports much further west. The advantage of Buffalo and Montreal is so insignificant compared with the vast amount of general good which would result that if it be subordinated they should not complain.

There are international associations of all kinds; why do not the marine men amalgamate and unitedly approach the governments of both countries to secure what shall so largely benefit each. JOHN A. COPLAND

Our correspondent evidently loses sight of the free transportation through the St. Clair and St. Mary's Falls Canals.—Ed.

A WORKING PROBLEM.

EAST TOLEDO, O., February 23rd., 1892.

To the Editor of The Marine Record.

I send you an example which I would like to present for solution to the sea-faring public. Query.—Tug A. is sent out from a certain port to perform a certain service. Another tug B. is sent out to look for A. with some additional orders; tug B., while in search of A., meets a vessel which has seen A. 4½ hours previous and passed close to him, vessel has steered S. SE. at the rate of 8 miles per hour, Tug A. was observed to steer NE by E. by this vessel. Now supposing A. to keep on steering NE by E. at 9 miles per hour, after how many miles of running is B. going to catch up to A.

B. goes 11 miles per hour. Three solutions are possible, viz: first—by steering for the point where vessel passed A. and then following in his wake. second—by steering for the point where A. is, while B. is hailing vessel and then following it up in his course; and last: by shaping a direct course to intercept A. Please give course and distance to be steered by B. in each of the three solutions. FRANK HENRICH.

A DEVIATION TABLE.

ERIE, PA., February 23, 1892.

To the Editor of The Marine Record.

My object has been fully accomplished and my labor repaid by the reading of Prof. John Maurice's article in your issue of the 18th. When I sent you the notes from my log book as pilot of the Michigan I hoped to encourage others to do likewise and thereby gather valuable information. I now offer you extracts from my deviation table revised October 13th 1885.

Stand. Comp.	Deviation.	Stand. Comp.	Deviation.
N	1°16′ W	S	2°30′ E
N by E	6 28 "	S by W	7 43 "
N N E	11 40 "	S S W	13 04 "
N E by N	15 47 "	S W by S	18 19 "
N E	19 54 "	S W	23 44 "
N E by E	22 46 "	S W by W	27 44 "
E N E	25 47 "	W S W	31 44 "
E by N	30 24 "	W by S	33 30 "
E	35 00 "	W	35 00 "

The figures were obtained by azimuths of the sun off Port Colborne and by bearings of a distant object in the harbor of Put-in-Bay, the ship was upright and swung through two points of the compass and permitted to rest until observation was complete and satisfactory. The notable differences between the west and east deviations were caused perhaps by the proximity of the smoke stack which was aft of the compass and heated vertical iron has its peculiar effect, being one of the three co-ordinates usually considered in connection with magnetic effects of a ship, with such problems however the pilot does not deal in shaping his course.

Watchfulness is imperative on the part of those who navigate iron and steel ships, conditions are constantly changing by induction and a course presumed to be safe carries the ship into danger, when the compass is apt to be blamed, whereas it but yielded to magnetic influences that became altered. The vibrations in loading coal and iron by schutes are to be considered in this connection. ABRAHAM J. LOUCH.

THE WORLD'S TONNAGE.

According to the Bureau Veritas in its report for 1891, the world,s steamships of more than 100 tons nmmbered 10,103, with a total tonnage of 13,805,028. More than one-half the steamships belong to England; then comes Germany, France, and the United States in the order named. The table of steam and sail of all maritime nations follows:

	Steam	Tons		Sail	Tons
England	5,471	5,369,951	England	9,751	8,563,524
Germany	761	762,915	U. S	3,504	1,519,114
France	488	500,516	Norway	3,419	1,393,481
U. S.	456	417,138	Germany	1,480	654,147
Spain	349	291,259	Italy	2,010	586,984
Italy	206	199,153	Russia	2,105	447,776
Norway	440	221,202	Sweden	1,481	336,937
Holland	181	171,175	France	1,573	286,114
Russia	313	140,036	Greece	1,334	281,024
Sweden	336	124,177	Spain	1,361	243,025
Denmark	215	112,652	Holland	747	202,990
Austria	114	100,657	Denmark	857	148,447
Japan	146	75,459	Austria	289	110,184
Belgium	59	77,092	Turkey	541	97,895
Greece	88	60,376	Chile	147	76,370
Brazil	147	59,868	Brazil	270	58,255
Portugal	39	32,582	Portugal	261	54,756
China	34	29,169	Argentine	105	28,439
Turkey	43	26,553	Japan	98	25,602
Chile	34	23,660			

Sailing vessels of 50 tons or more number 31,666 for all countries, and they have a total of 10,217,909 tons. In the year ended on January 1, 1892, 205 steamships, total tonnage 262,775, were lost.

A TUG THAT IS A TUG.

A model of one of the powerful sea-going tugs used for coast service will add interest to the marine exhibit of the department of transportation at the World's Columbian Exposition. Those employed on the Atlantic coast have generally been considered the largest in the United States, but there has recently been built at the Union Works in San Francisco, what is conceded to be the largest, strongest and most expensively fitted tug in this country if not in the world. She is named the "Fearless," and was ordered by the Spreckels Bros. for the Oceanic Steamship Co. Her register is 365 tons, her engine develops 1,200 horse power and her speed is 18 knots an hour. She also has an electric search light equal to the best in use on any U. S. vessel, and the most powerful fire aparatus yet known, which can throw at the shortest possible notice eight large streams at once. Her cost complete was $120,000. The Spreckels' fleet of sea-going tugs are six in number, including the "Fearless." They use an 18 in. coir hawser, which is so elastic that there is little danger of its parting through heavy and sudden strain. They are competent to tow craft of any size safely in any weather from one port to another on the Pacific coasts. An eminent ship-builder from England, after a critical inspection of the "Fearless," pronounced her far ahead of anything of the kind to be found in Great Britain. Her general dimensions: length over all 153 feet; beam 26 feet; depth 10 feet; she is built of steel throughout with the exception of the pilot house, and her plates are heavier than those of the Cruiser "Baltimore."

Her deck is of steel and covered with a teak deck three inches in thickness. She is fitted with triple expansion engines of 36 inch stroke, and cylinders of 20, 30 and 50 inches in diameter, with working pressure of 170 pounds of steam, the engines are expected to develop 1220 horse power. She will carry 250 tons of coal in her bunkers, and her total capacity for coal carrying is about 400 tons, more than enough to tow a vessel to Honolulu, or steam 4000 miles at an eight knot speed without recoaling.

THE UNITED STATES MARINE HOSPITAL SERVICE.

During the fiscal year ended June 30, 1891, the total number of patients treated by the United States Marine Hospital Service was 52,992, of which number 15,349 were treated in the hospital, and 37,643 in the dispensaries connected therewith. There are eighteen United States marine hospitals, exclusive of the quarantine hospitals owned and operated as such by this Service; and one hospital, at New York, which is leased and operated entirely by the Service.

OBITUARY NOTICE.

(BENNET JONES)

Bennet Jones, aged eighty years, a native of Wales, and a marine engineer by profession, died at Erie Pa., last Thursday. He sailed in Reed's Line on steamers "Jefferson" "Madison" and "Queen City" from 1836 to 1848, when he joined the U. S. steamer Michigan, and served on her for 21 years. During the war he was her chief engineer. He was highly esteemed as an honorable truthful man by all his old comrades.

APPOINTMENTS OF MASTERS AND ENGINEERS.

The tonnage owned by G. K. Jackson, Bay City, Mich., will be officered as follows: Steamer D. Leuty—Capt. John S. McNeil, Engineer S. Stone. Barges G. K. Jackson—Capt. Curtis Jackson; R. Bottsford—Capt. John Lovell. The Montgomery formerly in this fleet is now owned by Loud & Sons, Oscoda, Mich.

Marine Transit Co., Marine City, Mich., have made the following appointments: Steamers, Aztec—Capt. Fred Howe, Engineer C. Deim; Toltec—Capt. Jas. Taylor, Engineer A. Arunson. Schooners, Miztec, Capt. Jas. Owen; Zapotec, Capt. Peter Thomson.

The fleet managed by A. R. Sinclair, Port Huron, Mich., will be officered as follows: Steamers, Simon Langell—Capt. Alex. R. Sinclair, Engineer Anthony Rein; Kalkaska—Capt. H. Fist, Engineer Geo. Miller. Schooner Arenac—Capt. Henry Davis.

Gordon Corning, Saginaw, Mich., has appointed for the propellers C. H. Green—Capt. John Garrey, Engineer T. H. Warriner; Oscoda—Capt. Geo. Ryan, Engineer Robert Leitsch.

The Flint & Pere, Marquette R. R. Line steamers will be officered as follows: No. 1—Capt. M. McRae, 1st. Engineer R. McLaren, 2nd. Engineer H. DeClute; No. 3—Capt. J. Stewart, 1st. Engineer F. McLaren, 2nd. Engineer W. Glover; No. 4—Capt. J. Russell, 1st. Engineer J. Collins, 2nd. Engineer W. Keenan; No. 5—Capt. C. E. Moody, 1st. Engineer C. H. Wilcox, 2nd Engineer J. Cantwell.

F. L. Vance, Milwaukee, Wis., has appointed to the F. L. Vance—Capt. Marion Tinney and to the R. P. Flower—Capt. C. M. Davis.

F. Schlesinger steamers, Progress—Capt. Daniel Sullivan, D. W. Rust—Capt. Frank Rice. Barge Tokio, E. J. Rafferty.

Capt. Homer Durand's fleet, Toledo, O., will be officered as follows: Steamer St. Paul—Capt. H. Durand, Engineer Wm. Robinson. Schooners, P. B. Locke—Capt. J. A. Moore, Anna P. Grover—Capt. Geo. L. Durand. No appointment has yet been made for the schooner Scotia.

The boats owned by Frank Perew, Buffalo, will be officered the coming season as follows: Steamer A. P. Wright—Capt. John Perew, Engineer Adam Haig; John P. Lyon—Capt. Frank D. Perew, Engineer Hugh McLaughlan.

B. Whitaker & Son, Detroit, have made the following appointments: Steamer Byron Whitaker—Capt. Patrick Ryan, Engineer Jacob Sutter. Schooners S. V. R. Watson—Capt. Geo. M. Kunna; Unadilla—Capt. H. H. Hickmott.

James McBrier, Erie, Pa., has appointed to the Uganda, (new steamer building at Bay City)—Capt. C. H. Wilson, Engineer Wm. Meade. Steamers, Nyanza—Capt. Frank D. Welcome, Engineer; J. R. Blanchett; Fedora—Capt. Frank A. Fick. Engineer Charles Davis. Engineers Wilson, Meade and Blanchett are residents of Erie, Pa. Capts. Fick and Davis of Cleveland, O. and Capt. Welcome, of Buffalo, N. Y.

W. J. Spicer, general manager D. G. H. & M. Railway informs us that Capt. F. Smallman takes command of their steamer City of Milwaukee. This is a correction on the initials W. H. which we printed last week in our appointment lists.

Wiley M. Egan has appointed to the City of Rome—Capt. R. H. Long and Engineer A. E. Welch.

The Graham & Morton Lake Michigan Passenger Line, will be officered as follows: City of Chicago—Capt. Charles McIntosh, Detroit, and Engineer Wm. J. McClure, Detroit. The new steamer now building at the yards of the Detroit Dry Dock Co., will be commanded by Edward Stines, of St. Joseph, Mich., and her machinery placed in charge of Robert McClure of Detroit.

Continued on page 9.

The Marine Record.

ESTABLISHED 1878.

Published every Thursday, at 144 Superior Street, (Leader Building,) CLEVELAND, O.

IRVING B. SMITH. }
CAPT. JOHN SWAINSON. } - - - Proprietors.

BRANCH OFFICE,

CHICAGO, ILLS., - - - 252 South Water St.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, - - - - - - $2 00
One copy, one year, to foreign countries, - - - - $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

THE MARINE RECORD can be found for sale by the following agents and news dealers:

AMHERSTBURG, ONT.—George Taylor.
ASHTABULA HARBOR, O.—O. C. Large, O. M. Kohne.
ASHLAND, WIS.—Post Office News Stand.
BUFFALO, N. Y.—Miss McCabe, Elk st.; W. H. Boyd, 60 Main st.
CHICAGO, ILLS.—Thomas Williams, 252 South Water street.
L. P. Ballin, 33 West Randolph street.
CLEVELAND, O.—Cleveland News Co, 118 Wood street; G. F. Bowman, corner Pearl and Detroit street; R. A. Castner, 254 Detroit street E. J. Ray, 452 Detroit street; Larwood & Day, 259 Superior street; N. Hexter, 303 Superior street; Taylor, Austin & Co., 116 Public Square.
DETROIT, MICH.—George Abrams, River Reporter.
DULUTH, MINN.—Albertson & Chamberlain, 323 West Superior st., Zenith News Stand.
DUNNVILLE, ONT.—J. H. Smith.
ERIE, PA.—Reed Caughey, W. J. Sell, Moses Dryfoos.
ESCANABA, MICH.—John Finnegan, Sourwine & Hartnett.
HURON, O.—John Squires.
HOUGHTON, MICH.—F. W. Kroll.
KINGSTON, ONT.—John Henderson & Co.
LORAIN, O.—C. C. Knapp, J. B. Tunte.
LUDINGTON, MICH.—Fisk & Co.
MANISTIQUE, MICH.—W. S. Gilbert, Post Office Block.
MARQUETTE, MICH.—Vannier & Bigelow.
MILWAUKEE, WIS.—T. S. Gray Co., 126 Wisconsin street.
OWEN SOUND, ONT.—H. P. Adair & Co., J. Sharpe, Jr.
PORT HURON, MICH.—D. E. Lynn, Marine Reporter.
SARNIA, ONT.—J. G. McCrae, D. McMaster.
SAULT STE. MARIE, MICH.—J. P. Haller, Water street.

☞ Subscribers and others are respectfully invited to use the columns of THE MARINE RECORD for the discussion of pertinent topics and all matters relating to the welfare of the Lake Marine. N. B.—We do not hold ourselves responsible in any way for the views expressed by our correspondents. Contributions must in every case be accompanied by the full name and address of the writer, and be at this office not later than Wednesday morning.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, O., FEBRUARY 25, 1892.

WHAT does the Frye Bill, based as it is, upon the recommendations of the American delegates of the International Marine Conference, contemplate doing for the officers of the lake marine? Engineers are asked to acquire an unattainable standard of efficiency so as to entitle them to carry on their occupation on the coast and ocean. Masters of the finest class of freight and passenger steamers seem to be ignored, inasmuch as they are not eligible as candidates to secure even a license for coast trading. On the completion of a deep waterway to the coast, lake men do not desire to be barred out in the manner they would be by only being permitted to exercise their calling on the lakes. A broader measure would meet with favor and be considered more equitable to the skilled Lake mariner.

THE steamship Indiana, of the American Line, left Philadelphia this week laden with flour and other supplies destined to relieve the famine-stricken suffering Russians. The intended departure of a steamer with the necessaries so nobly and thoughtfully presented by American citizens has been widely heralded, yet, it remained for THE MARINE RECORD to chronicle an act which adds a bright lustre to the major donation and reflects great credit on the maritime element of the United States. In thus stating, we refer to that grand old company, "The Insurance Co. of North America," which, in addition to its other worthy subscription, insured $50,000 on the Indiana's cargo and donated the premium to the noble cause of charity. It is such acts as these which verify the name of the port of departure of the vessel in this fast-living, money-getting age, and we also mark that the "city of brotherly love" contains the head office of this old established marine insurance company, whose humane, thoughtful and generous action must redound to its own credit in further cementing the business interests of the American Assured to the company who has so nobly upheld the prestige of marine underwriting in the United States.

THE Dominion Department of Marine have imposed a uty on steamboat inspectors which is, to say the least, somewhat arbitrary. From the wording of the circular issued by the department "no compass will be considered in good condition in an iron, composite, or wooden vessel when placed within twenty-five feet of any mass of iron, such as a smoke-stack, engine, boiler, etc., unless accompanied by an adjuster's certificate dated not less than two years previous to the inspection, or by a card of deviations showing the errors on each course, such card to be certified by the master as having been proved correct." Compasses in iron or steel steamers, if recognized at all by the government, should be adjusted each spring, as after the vessel's head has remained for several months in one direction the preceding year's adjustment can seldom be depended on. Canadian steamboat owners may, and no doubt will, dispense to a great extent with the adjuster's certificate, by having their masters keep a properly posted deviation diagram, and as this may be drawn up without using an instrument, by means of known bearings and amplitudes, little difficulty need be experienced in conforming with the law as it now reads, although no loss of life, groundings or other delay to floating property is directly traceable to incorrect courses being steered in the modern iron and steel steamers. The Canadian Marine Association at their recent annual meeting protested against such a law being carried into effect, yet, after mature consideration, that body will probably realize that little or no inconvenience can result from the enforcement of such a clause, as it is simply another "Custom House oath" which the master may affirm to according to his knowledge and discretion.

THE lengthy Frye Bill seeks to rehabilitate the entire marine inspection service, thereby crowding on to a department which is already strained a work greater than it is fitted to accomplish. With the clauses of the Bill relating to the qualifications of deck officers there is but little room for protests, but, in the engineering department, the framers of the Bill have simply overreached themselves, the class whom they desired to legislate for, and the bureau empowered to carry out the provisions of the law. Already the steamboat inspection service is wonderfully controlled by Revised Statutes and amendments thereto, until few, if any, marine men know what is really expected from them and local inspectors are kept at their wits end dovetailing amended amendments on to the Revised Statutes so as to act intelligently, while admiralty judges and lawyers are just as prone to quote the law and argue their cases on the international or coast usages and customs, as they are on the special legislation designed for lakes, bays and rivers. The Frye Bill is an effort to elucidate, combine and centralize the present disconnected system, yet, it is not acceptable to the maritime community of the United States. Accordingly it will not be endorsed by the present Congress and another attempt must be made to prove the adequacy of the clauses embodied in the Bill. Lake engineering, boiler-making and shipbuilding plants are entirely opposed to the measures from first to last, and as a prominent shipbuilder remarked, "Our yards would require to have one or two inspectors stationed on the spot permanently, otherwise work would be kept at a standstill pending tests and inspection," and this is the unqualified decision also of other authorities. In the matter of marine engineers qualifications the features are held to be ridiculous for lake service, nor is such a high grade of technical efficiency considered necessary in the handling of even the highest class of machinery.

ABROGATE THE OBNOXIOUS TREATY.

The Lake Shipbuilders have awakened in true earnest to the unpatriotic and ill considered promulgation of the treaty clause of 1817, which totally prohibits them from entering into a contract with their own government.

A Michigan shipbuilder, although the lowest bidder on a contract for the construction of a practice vessel for the United States Navy, was recently ruled out of competition solely because his facilities were located on the shores of Lake Huron, as if forsooth, the lakes were a foreign country and not eligible to compete for the building of United States naval tonnage.

The consensus of opinion now is that the treaty was formally abrogated in 1865, then why may we ask are the lakes still handicapped in not being allowed to compete for the work of our own government?

However the treaty may have been construed, it is difficult to perceive any reason in prohibiting the building of a hull destined for coast or ocean service and to be enrolled in the naval tonnage of the country, by no stretch of the imagination can a partially built or equipped hull be termed a vessel of war, and the fact that such tonnage is not even intended for lake service should disarm all suspicion or intent of seeking to obtain an undue advantage over the bordering nation.

The Great Lakes are now lined with shipyards, modern lake built tonnage has crossed the Atlantic, North and South, the shipbuilder who was denied the right to construct a vessel for his own government has now two of his Michigan built steamers competing with the world's tonnage on the ocean, and whether there is diplomacy enough in the States to right the wrong under which the lake shipbuilders are now suffering, or otherwise, the lake shipyards will continue to progress in the future as in the past, only, that the advancement may be slightly retarded instead of being accelerated, by the government offering "a fair field and no favor" in the paths which lead to the acme of marine architecture.

Naval or merchant lake built tonnage to reach the ocean in one, two, or three sections must perforce use the St. Lawrence system of canals, at least for the present, nor do we opine that England would offer any insurmountable objections to clearing any incomplete vessel through the canals, whatever her ultimate service was intended for; otherwise, the lake ports are simply under a blockade or strict surveillance, and the earlier it is ascertained how close a watch is kept on lake built tonnage, or what class of vessels would be prohibited from reaching the coast, the more intelligent the business of lake shipbuilding might be carried on, for we look forward to the day, and we believe it is not far distant, when contracts for light naval tonnage, such as dispatch boats, armed launches, torpedoes, swift cruisers, etc., will be placed by foreign countries, and especially by the nations of this continent, in the hands of lake shipbuilders for construction, and if such a class of tonnage may not be built by citizens for our own government, for what nationality can they be built and who is to exercise the universal jurisdiction?

In looking over the *Congressional Record* for 1864-'65 the discussion relating to the lake building clause runs riot with the sentiment of "flooding the lakes with war ships" and spending millions of money in doing so. It would be well for our legislators to rid their minds of the fallacious views then entertained—there is not another keel or gun desired to protect the lake ports, or fleet, at this time, agricultural, industrial and commercial pursuits occupy the attention of the Northwest, and not a profuse display of expenditures to establish a naval force to awe our neighbor, or ape the airs of effete Eastern dependencies, so that the issue rests on the economic basis of granting the greatest good to the largest number, and being so, there is no good reason why lake shipyards should continue to be handicapped in their energetic, zealous and commendable competition to rival the world in the art of iron and steel shipbuilding both in naval and merchant tonnage.

A NEW DEVICE IN THE CONSTRUCTION OF TRANSFER STEAMERS.

The railroad transfer steamers carrying freight and passengers, have hitherto been obliged to limit the number of cars to the accommodation or area of a single deck and while it is presumed that this mode of travel has proved eminently satisfactory, a new device in the construction of this class of tonnage has recently been patented by an eminent lake navigator.

Capt. M. H. Murch, of Cleveland, O., whose long and successful career on both salt and fresh water, coupled with his superintendence of the magnificent fleet of the Northern Line steamers, is well known to the lake marine fraternity as a careful, shrewd and conservative man of parts, and it is to his ingenuity that marine architecture is indebted for the novel and original plan of allowing a railroad transfer steamer to carry a double tier of cars, where formerly only a single tier on each track might be transferred.

The invention of construction succinctly described consists in laying double or triple tracks on the deck and also in the hold, and it is in the latter feature where the inventive faculties of Capt. Murch has been brought into play. It appears that the steamer is designed chiefly for the lake trade and consequently is specially constructed as an ice crusher. In addition to carrying the hold full of railroad cars, which is accomplished by means of a detachable bow pivotally fastened to the hull on its upper edge, on the same principle as a side gangway or port, this device admits of the cars being run in on the rails until the hold is filled, when the stempiece and each bow retaining its rigid construction and all in one piece is lowered down, making tight joints and seams, and then showing a vessel of ordinary construction.

The hull is designed according to the number of cars desired to be carried and it is estimated that sixty cars of the usual dimensions, say thirty-three feet, would require a hull of 365 feet by 50 feet on a depth equal to the height of the lower tier of cars, say twelve feet, a less number of cars a consequent decrease in general dimensions of hull. Railroad transfer facilities for their rolling stock is thus duplicated and by, perhaps, the very man who should have invented the plan, as Capt. Murch was raised in the shipbuilding yards of Maine and is thoroughly conversant with the construction of and just what is expected from a thoroughly staunch, seaworthy and useful vessel built for a special trade.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the Navigation and carrying business of the Great Lakes and the waters tributary thereto, with the intent to improve the character of the service rendered to the public, to protect the common interests of Lake Carriers and promote their general welfare.

OFFICERS FOR 1891.

S. D. Caldwell, President	Buffalo, N. Y.
Frank J. Firth, Vice President	Erie, Pa.
Thomas Wilson, Vice President	Cleveland, O.
P. P. Miller, Vice President	Buffalo, N. Y.
Ira H. Owen, Vice President	Chicago, Ills.
Charles H. Keep, Secretary	Buffalo, N. Y.
James Carey Evans, Treasurer	Chicago, Ills.

BOARD OF MANAGERS.

James Ash	Buffalo, N. Y.
W. Bullard, Gen. Mng'r. Union Steamboat Co	Buffalo, N. Y.
S. D. Caldwell, Gen. Mng'r. Western Transit Co.	Buffalo, N. Y.
E. T. Evans, Gen. Mng'r. Lake Superior Transit Co.	Buffalo, N. Y.
John Gordon, Gen. Mng'r. Northern S. S. Co	Buffalo, N. Y.
W. P. Henry, Gen Mng'r. Lehigh Valley Trans. Co	Buffalo, N. Y.
P. P. Miller	Buffalo, N. Y.
Frank J. Firth, President Anchor Line	Erie, Pa.
M. A. Bradley	Cleveland, O.
H. M. Hanna	Cleveland, O.
Thomas Wilson, Manager Wilson's Line	Cleveland, O.
Harvey H. Brown	Cleveland, O.
A. W. Colton	Toledo, O.
W. Livingstone, Jr., Mng'r. Michigan Nav. Co	Detroit, Mich.
James Davidson	Bay City, Mich.
W. M. Egan	Chicago, Ills.
R. P. Fitzgerald	Milwaukee, Wis.
David Vance	Milwaukee, Wis.
Alex. McDougall	Duluth, Minn.
F. W. Baldwin	Ogdensburg, N. Y.

THE MARINE RECORD.—OFFICIAL PAPER.

LAKE SHIPBUILDER'S CONVENTION.

The recent convention of lake shipbuilders held at Cleveland, O., has resulted in the following preamble and resolutions being drawn up and placed in the hands of those who will work earnestly for the abrogation of the treaty which prohibits a prominent lake industry from accepting a government contract.

WHEREAS, In the year 1817, following the war of 1812, the United States made a treaty with Great Britain, by which it was mutually agreed that each of those nations should be entitled to maintain on the Great Lakes, forming part of the boundary between the United States and the provinces dependencies of Great Britain, four armed schooners and no more, which treaty was subsequently modified so as to make the limitation one steamer of specified armament; and

WHEREAS, the marvelous growth of this country and the building up of populous cities on our side of the boundary, far in excess of the growth of cities on the Canadian side, in later years caused the inequity of this primitive treaty to become so clearly apparent that the Congress of the United States, by formal enactment on February 9, 1865, declared the said treaty, so far as it applied to limiting the number of war vessels on the Great Lakes, to be thereby abrogated and thenceforth null and void; and

WHEREAS, shortly thereafter, through no warrant of law or custom, and against the limitations of the Constitution of the United States, William H. Seward, then Secretary of State, sought by agreement with the British Minister, resident at Washington, to rehabilitate said abrogated treaty, and to re-establish it in full force and virtue, notwithstanding the deliberate action of Congress in declaring it to be void; and

WHEREAS, by reason of this illegal agreement of the Secretary of State, it has recently been ruled by a department at Washington that it was illegal for the great ship building interests of the Great Lakes to submit proposals and enter into competition for the construction of war ships for the United States navy, even though they were to be used on the high seas and not on the Great Lakes; and

WHEREAS, the Solicitor General has recently ruled that the treaty of 1817, limiting the naval armaments to be maintained on the Great Lakes, does not now exist, which makes a conflict of rulings in two of the administrative departments of the Government: and

WHEREAS, the Iron and Steel ship building plants along the lakes of the northwest exceed in combined facilities, in magnitude and in capital, the interests of all other ship building plants combined; and

WHEREAS, it is only right and just that these great inland ship building interests should have an opportunity now to bid for the construction of torpedo boats and the smaller class of war ships; and, later, when the canals connecting with the seaboard have been deepened, to bid on war ships of larger class; therefore

RESOLVED, that we, the iron ship builders of the Great Lakes, in convention assembled, hereby respectfully petition and request the Congress of the United States to take such action as will formally declare the immediate and complete abrogation of that part of the treaty of 1817 with Great Britain, limiting the number of war vessels to be constructed and maintained on the Great Lakes.

RESOLVED, that for the reasons above mentioned, and for the general good, that we respectfully request Congress to take the necessary action to secure a twenty-foot waterway from the Great Lakes to the Atlantic Ocean, entirely within American jurisdiction, which will enable sea-going vessels to reach the Great Lakes, and lake-going vessels to reach the seaboard, thereby resulting in a mutual gain to the great Northwest and to the East.

RESOLVED, For the protection of the shipbuilding interests, both on the lakes and seaboard, we respectfully request Congress to repeal section 4136 of the United States Statutes, which gives the Secretary of the Treasury the right to grant a registry and enrolment to a foreign built ship, if wrecked in United States waters, provided the repairs are made in the United States, and amount to one-half the value of the ship in wrecked condition.

Continued from page 7.

OFFICERS APPOINTED.

Chesley Wheeler, managing owner of the propeller Elfin Mere, has appointed Capt. David Wilson of Detroit to take charge for the coming season.

R. P. Fitzgerald & Co. of Milwaukee have appointed the following officers to their fleet for the coming season: Steamers P. D. Armour,—Capt. F. D. Chamberlain, Engineer Thomas Marson; John Plankinton,—Capt. L. H. Powell, Engineer W. G. Fell; R. P. Fitzgerald,—Capt. L. E. Boyce, Engineer John Mertes; W. M. Egan,—Capt. C. H. Franke, Engineer R. E. Walker; Pueblo,—Capt. M. Fitzgerald, Engineer James Regan; Denver,—Capt. P. Christenson, Engineer John Smith; Topeka,—Capt. A. Gibbs, Engineer J. J. Staley; Omaha,—Capt. D. Stalker, Engineer Alex Staley, Frank Keating Superintendent Engineer.

W. F. Botsford, Port Huron, Mich., has appointed the following officers to his fleet: Steamers Colorado,—Capt. Frank Dorthy, Engineer T. F. Birch; Roanoke,—Capt. J. W. Martin, Engineer R. Bruce; Osceola,—Capt. George Thompson, Engineer John Elliott.

James E. Danaher, Ludington, Mich., has appointed Capt. John Cochrane and Engineer Johnson to the steamer Marion.

The Escanaba Towing & Wrecking Co. have appointed the following officers to their fleet: Monarch,—Capt. Bartley, Engineer George Bartley Jr.; Delta,—Capt. Caster Bartley, Engineer Boardman Leighton; Owen,—Capt. A. V. Lindquist, Engineer William Hazen.

C. McLachlan, Port Huron, Mich., has appointed to the steamer Kittie M. Forbes,—Capt. Andrew Rattray and Chief Engineer Robert Cameron.

C. T. Morley, Marine City, Mich., has appointed Capt. I. A. Nicholson and Chief Engineer Andrew Manion to the steamer St. Lawrence and Capt John Andrews to the John J. Hill.

Appointments for the Mutual Line steamers, are: Corona,—Capt. John B. Hall, Engineer A. L. Wilcox; Corsica,—Capt. William Cummings, Engineer William Steen; Cambria,—Capt. John Dunn, Engineer Thomas Drysdale.

The Menominee Line steamers will be officered as follows: Norman,—Capt. S. Stratton, Engineer Clement Clark; Saxon,—Capt. S. Murphy, Engineer George W. Mason; German,—Capt. T. W. Dunn, Engineer William Sanderson; Briton,—Capt. M. W. Gotham, Engineer O. H. Gilmore; Grecian,—Capt. James A. Walsh, Engineer William H. Jerome; Roman,—Capt. A. J. Greenley, Engineer S. A. Wells.

Appointments have been made for the Bradley Line fleet as follows: Gladstone,—Capt. J. Holmes, Engineer John Broderick; Hesper,—Capt. B. H. Jones, Engineer John Twohig; Passadena,—Capt. F. H. Ray, Engineer William Wilkie; M. B. Grover,—Capt. M. Mulholland, Engineer W. Angel; City of Cleveland,—Capt. C. Moran, Engineer H. C. Talbot; R. P. Ranney,—Capt. W. Anderson, Engineer H. G. Hunt; E. B. Hale,—Capt. L. Stowe, Engineer Gilbo; Fred Kelley,—Capt. H. Peterson, Engineer Hanna; J. S. Fay,—Capt. W. Morris, Engineer Erwin Morrison; Superior,—Capt. Paul Howell, Engineer William Bond; Sheldon,—Capt. C. H. Tift, Engineer F. E. Wheeler; Chisholm,—Capt. Wysoon, Engineer R. E. Smithells. Schooners, Ahira Cobb,—Capt. E. Saveland; John Martin,—Capt. Charles Ahlstrom; D. P. Rhodes,—Capt. Geo. McLeod; Adriatic,—Capt. Henry Brock; Negaunee,—Capt. Anthony Leland; A. Bradley,—Capt. George Richards; Sandusky,—Capt. E. P. Spear; Thomas Quayle,—Capt. Robert Anderson; S. P. Ely,—Capt. J. M. Thomas; M. R. Warner,—Capt. N. Gifford; S. H. Kimball,—Capt. A. P. Klumph; South West,—no appointment yet made.

Capt. A. H. Reed has been appointed to the Alex Nimick, Engineer P. H. Doyle; and Capt. H. L. Mills to the John Harper whose engineer is not yet named.

Charles Hebard, Pequaming, Mich., has appointed to the steamer Charles Hebard,—Capt. James Parsons, Engineer William Shoemaker. Schooners, Aloha,—Capt. Alfred Eads; Annabell Wilson,—Capt. Burr Hursley.

Capt. M. J. Cummings of Oswego, N. Y. has appointed to the steamer Charles S. Parnell.—Capt. P. Griffin, Engineer James Carey; Mont Eagle,—Capt. William Griffin, Engineer James Chestnut.

LET LAKE SHIPBUILDERS COMPETE.

Anent the wide discussion on lake shipbuilding, Chilson P. Conger, a member of the firm of Conger & Conger, attorneys and counsellors at law, Washington, D. C., has written an able article on the subject of the 1817 treaty, which has been ruled sufficiently alive to debar lake shipbuilders from competing for government work.

Mr. Conger is evidently master of the subject as the following quotations from his article amply verify.—

"How many of us would have assented twenty years ago to the proposition that in this latter part of the century the inland seas, called the "Great Lakes," would have upon their shores from Buffalo to the farthest point on Lake Superior, such splendid and well equipped ship yards as would enable men to construct not only the magnificent ships such as are used exclusively upon these waters, but more remarkable still, build and equip vessels which should pass through them and over the St. Lawrence to the ocean, for comparison and competition with the best type of vessel that ploughs the seas, in speed, capacity and naval architecture. Our old-time shipbuilders on the Atlantic coast have been the first to realize in a keenly practical way the fact that this is the existing condition now, although looked upon by them in years gone by as a harmless theory only.

Our wide awake western shipbuilders have learned fast and well since the field began to be too small for their work in the confines of the Great Lakes, and to-day they crowd close upon the old domain in competition, in the building of splendid freight vessels, swift and strong revenue cutters, and different classes of lighthouse craft for use upon the Atlantic Coast; and upon the high seas, and now yearn for a chance to push the competition still further by the building of certain classes of naval ships for our government for use upon the oceans. * * *

The 1817 treaty, whether now legally in force or not, is the present stumbling-block in the way of our western shipbuilders' ambition. * * *

The treaty was formed out of conditions entirely different to those of the present hour. Born of a then exigency it was allowed to stand, more or less faithfully kept by both powers through the years that followed, down to the time of the late civil war, when it was practically annulled by our government, because of the necessity therefor growing out of Canadas' being made a base of operations and supplies for the confederates; again to be renewed by a dictum of the then Secretary of State without authority of congress, although congress had previously solemnly confirmed the annullment made by the giving of the required six months notice to England by our government. For thirty years the conditions of this hybrid treaty have stood practically unchallenged.

But the great lakes' ship builder has awakened to the fact that this treaty, so-called, is held to be a live treaty, unlawfully kept alive though he may contend, and he is now ready to ask that it be shown whether it is really a live and lawful treaty, and whether the new field of commercial growth on the borders of our inland seas, is to be shut out in the building of naval tonnage, in competition with his, "down east brother," because we have or claim to have a broken treaty with a foreign power, claimed to be still an existing treaty.*

The western shipbuilder does not ask to flood the lakes with naval ships of war for use on these lakes; he does not ask that the government shall increase its naval tonnage or armament thereon; he simply asks that he may be allowed to compete on equal terms with the coasts ship builders, in the construction of such naval tonnage as he can build and send down the St. Lawrence for use by the government on the high seas.

This is an entirely different proposition from any contemplated when the treaty of 1817 was formed.

It must be apparent that while England is at peace with us, she can care little where we build our ships of war, whether on the coasts or on the great lakes, provided such ships, beyond those allowed by the terms of the treaty, are to be used exclusively upon the high seas.

Under the present national policy, we do not need to build and equip more ships of war for use on these lakes than the one now in use thereon. But our government could meet the proper demands of the great commercial interests controlled by its own citizens, in allowing them to build and equip ships of war for use on the high seas without infringing or annulling any part or principle of the treaty, and England herself would hardly care to make such course on our part a ground for the charge, that we were breaking the true intent of the treaty stipulations.

We must recognize, and do recognize, England's power to suggest her interests in this question broadly considered. We recognize that it must be through her domain, that these naval ships must now reach the ocean, and as a consequence we must consider the way which will best meet this consideration and at the same time evolve from it the main point, which will not necessarily trench upon her old time propositions made to us in good faith, to keep the lakes, which form the borders between the two countries, free from an unnecessary or excessive armed naval force by either country.

It is to be presumed that should occasion arise for the building and equipping of ships of war for use on these lakes, our government would not hesitate to annul the treaty just as it did during the late civil war. This government needs only to pledge its faith to England, that any ships of war built under the present proposition, would be kept entirely independent of the present naval force of the great lakes, and that until the treaty was regularly declared abrogated, such naval force as the treaty covered should not be increased.

The irresistible march of general commercial progress towards the great west, has been so long known and recognized that is now matter of little surprise and hardly of special comment, but the wonderful and comparatively new development of the great ship building industry upon our inland seas, is but dimly understood or appreciated by most of our citizens outside of that section, and the fact that such industry now knocks at the door of our government, and demends that its commercial progress be not further impeded by old and now unnecessary interpretations of treaty stipulations, not designed to or necessary to cover the requirements of the present hour, must awaken the liveliest interest among our law-makers, and will in the immediate future, lead to a broader policy, which will foster and encourage this industry, and result in naval tonnage being built on our great lakes to find its way to the seas.

John Wiley & Sons, scientific publishers, 53 East Tenth street, New York, have in preparation a new work on timber and metallic structure entitled: Theory and practice in the designing of modern framed structures: This book is written jointly by Prof. J. B. Johnson, author of "Theory and Practice of Surveying," and Professor of Civil Engineering in Washington University, St. Louis, by Mr. C. W. Bryan, Designing Engineer of the Edge Moor Bridge Works, Wilmington, Del., and by F. E. Turneaure, Instructor in Civil Engineering in Washington University. It will describe in great detail the most modern and approved styles of structures and methods of analysis, giving only a historical review of obsolete forms of trusses and abandoned analytical methods. It will treat not only of bridges and roofs but also of trestles, viaducts, stand-pipes, elevated tanks, and steel skeletons for high buildings. It will be adapted to serve both as a text-book in the higher engineering schools and as a hand-book for the designing engineer. As to the authors, Prof. Johnson is too well known to require any statement as to his fitness for such a work. Mr. C. W. Bryan, a former student of Prof. Johnson's, has for many years been the designing engineer for the Edge Moor Bridge Works, perhaps the largest and best equipped bridge works in the world. He will have special supervision of the parts describing the current practice. Mr. Turneaure is a graduate of Cornell University and teaches this subject in Washington University.

KINGSTON DRY DOCK CHARGES.

An order in council has been passed fixing the tariff charges for vessels and steamers from 100 to 500 tons the dockage is to be 20 cents per ton on the registered gross tonnage, and for all tonnage in excess of 500 tons the dockage will be 10 cents per ton upon the excess. The dockage on tugs and vessels of less than 100 tons will be $20, lay days, that is the days that a vessel remains in dock, one to commence 24 hours after the dock is pumped out, are to be charged at the rate of seven cents per ton per day and fractions of a day. In no case is the charge for lying in dock to be less than $20 per day. Cargoes will be charged at the same rate as tonnage, but no charge will be made for ballast. Coal will be classed as cargo. It may be thought that these charges, are somewhat low, but, in order that the Kingston dry dock may compete with the American docks on the Great Lakes and obtain a fair share of business, the tariff has been made to conform with the one adopted by the managers of the lake dry docks at a meeting held in Chicago on January 14, 1891.

VARIATIONS OF LATITUDE.

Some time ago it was mentioned that the latitude of Berlin and other continental towns had been found to vary by a fraction of a second, and that a party had been sent by the International Geodetic Union to Honolulu to find out whether or not this change was due to a shifting of the earth's axis in space. At the anniversary meeting of the Royal Society, Sir William Thomson announced that news had been received from the party to the effect that while the latitude of Berlin had increased by one-third of a second last spring that of Honolulu had decreased by nearly the same amount. As Honolulu had decreased by nearly the same amount. As Honolulu is near the opposite meridian to Berlin, this result shows that the axis had shifted, and verifies a conclusion arrived at by Sir William Thomson in 1876, namely, the temporary changes of sea level, due to the weather, may shift the earth's axis by as much.

THE *American Shipbuilder* comes to hand this week having an elegant new frontispiece for a heading which is both original and inclusive of all classes of tonnage. It is a pleasure to note the steady legitimate growth and influence which our New York contemporary has secured during the past two years and we desire to say to the well advised publishers of the *American Shipbuilder* "go on and prosper".

Insurance Company of North America.

INCORPORATED 1794.

CAPITAL, PAID UP IN CASH, - $3,000,000.00
ASSETS. - - - - - $8,951,518.83

CHARLES PLATT, President. WILLIAM A. PLATT, Vice-President.
EUGENE L. ELLISON, 2nd Vice-President. GREVILLE E. FRYER, Sec'y & Treas.
JOHN H. ATWOOD, Assistant Secretary.

LAKE MARINE DEPARTMENT.
GEORGE L. McCURDY, MANAGER. CHICAGO, ILLS

MARINE AND INLAND INSURANCE.

Atlantic Mutual Insurance Company,

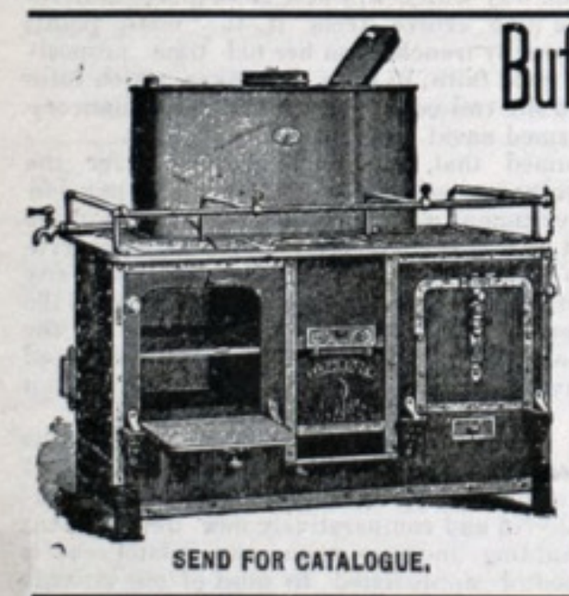
(ORGANIZED 1842.)
Office, 51 Wall Street, NEW YORK.

INSURES AGAINST MARINE AND INLAND TRANSPORTATION RISKS AND WILL ISSUE POLICIES MAKING LOSS PAYABLE IN ENGLAND.

Assets over $10,000,000.00, for the Security of its Policies.

The profits of the Company revert to the assured, and are divided annually upon the premiums terminated during the year; thereby reducing the cost of insurance. For such dividends, certificates are issued bearing interest until ordered to be redeemed, in accordance with the charter.

J. D. JONES, Prest. W. H. H. MOORE, Vice-Prest. A. A. RAVEN, 2nd Vice-Prest. J. H. CHAPMAN, Secy



SEND FOR CATALOGUE.

Buffalo Wrought Steel Ranges

Steamboat and Vessel Ranges and Broilers, with patent Rotary Grate.

SOMETHING NEW AND GOOD.
We also carry the STAMFORD TUG AND YACHT GALLEY STOVES.

RUSSELL & WATSON
Successors to FELTHOUSEN & RUSSELL.
139-141 Main St., BUFFALO, N. Y.

H. B. & G. B. BURGER,
SHIP-BUILDERS & CONTRACTORS.

MANITOWOC DRY DOCK.

Dry Dock will admit Vessels of 1100 tons drawing 12 feet. Have also a set of Boxes in connection with the Shipyard capable of lifting Vessels of 350 tons. A large stock of SPARS constantly on hand. **LARGE SPAR DERRICK.**

Vessels Docked and Repaired on Reasonable Terms.

MANITOWOC, WIS.

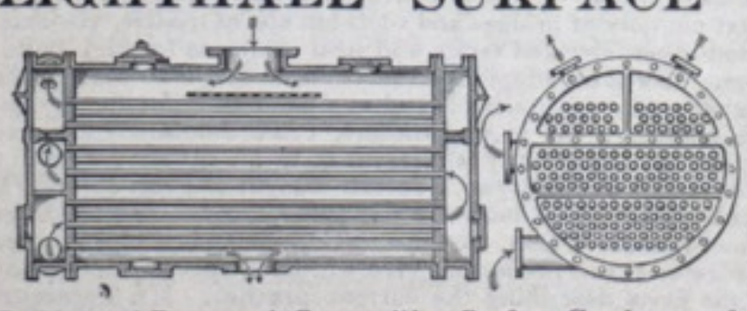
F. P. BUDDEN, President. W. E. VOLZ, Secretary & Treasurer.

SOUTH BROOKLYN STEAM ENGINE WORKS.

SUCCESSORS TO WILLIAM A. LIGHTHALL. VAN BRUNT & SUMMIT STREETS,

LIGHTHALL SURFACE CONDENSERS.

BROOKLYN, N. Y.
BUILDERS OF THE
Pat. Combined Surface Condenser and Feed Water Heater.



Lighthall Surface Condenser with Cobb's Improvements. Light Weight Brass Condensers a Specialty. Also Feed Water Heaters, Tube Heads, Screw Glands, Packings, Etc.

Builders of Brass and Composition Surface Condensers for U. S. Cruisers MAINE, No. 11, Gunboats Nos. 5 & 6, CONCORD and BENNINGTON and HARBOR DEFENCE RAM.

ORGANIZED 1881.

Michigan Fire and Marine Insurance Co.,

DETROIT, MICH.

CAPITAL, - - - - $ 400,000
ASSETS, - - - - 900,000
LOSSES PAID, over - - - 1,500,000

D. WHITNEY, JR. PRESIDENT. EUGENE HARBECK, SECRETARY.

This Company will transact a Hull and Cargo business on the Lakes during the season of 1892.

LOSSES PROMPTLY PAID. INSURE IN A STRONG HOME COMPANY.

INLAND MARINE INSURANCE.

UNION MARINE INSURANCE CO.,

(LIMITED.)
OF LIVERPOOL, ENGLAND.

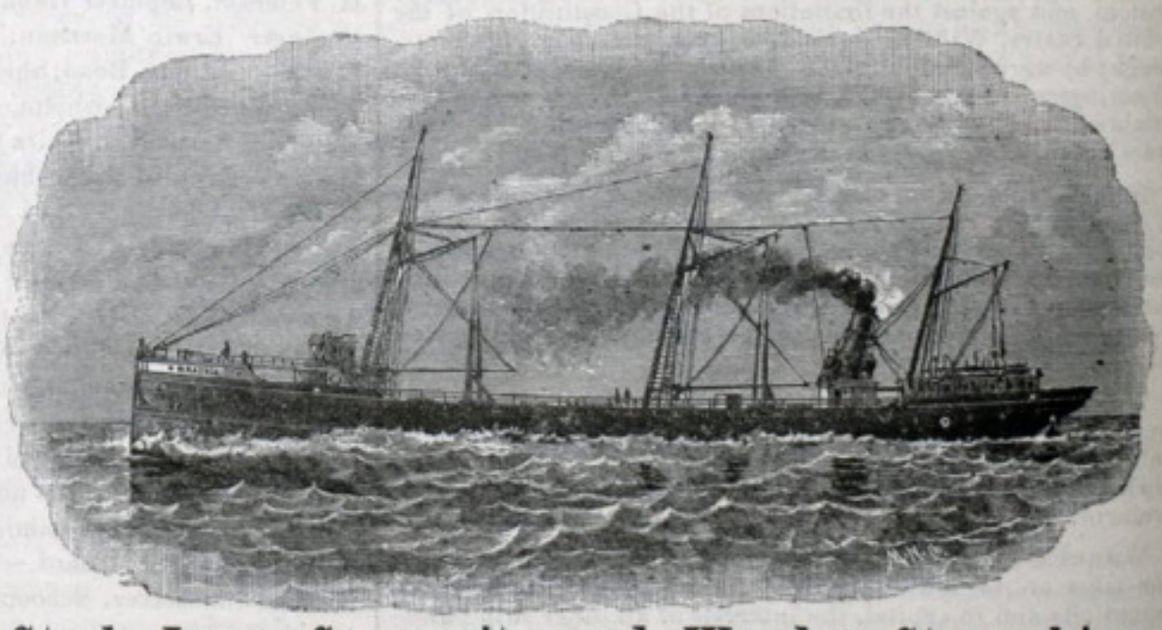
TRANSATLANTIC MARINE INSURANCE CO., - - OF BERLIN
GENERAL INSURANCE CO., - - - - OF DRESDEN
SAXONY INSURANCE CO., - - - - - OF SAXONY

AGGREGATE CAPITAL OVER $6,500,000.

The above Companies will do a General Hull and Cargo Business on the Great Lakes.

CHICAGO OFFICE: 6 SHERMAN STREET.
P. H. FLEMING, GENERAL MANAGER.

THE UNION DRY DOCK CO.



Steel, Iron, Composite and Wooden Steamships

OF EVERY DESCRIPTION
BUILT, DOCKED AND REPAIRED.

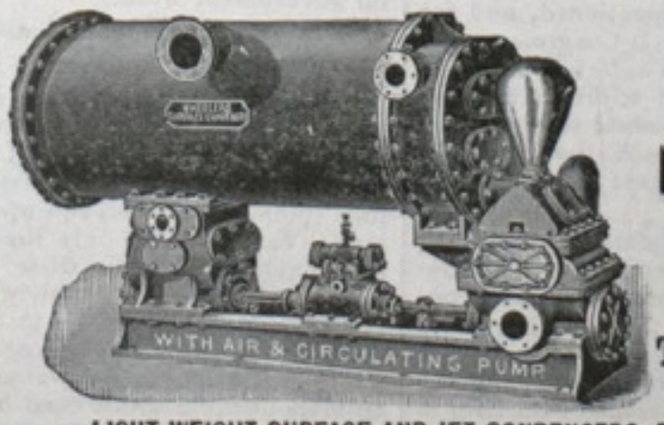
—BUILDERS OF—

JEWETT. TIOGA. SUSQUEHANNA. CHEMUNG. BRAZIL. FESSENDEN. AMERICA. COMMODORE PERRY. OWEGO. S. C. REYNOLDS. VIKING. S. C. SCHENCK. "PIER" FRANK W.

BUFFALO, N. Y.

WHEELER CONDENSER AND ENGINEERING CO.,

92 & 94 Liberty St., NEW YORK.
Proprietors and Manufacturers of
WHEELER'S IMPROVED
Patent SURFACE CONDENSERS
ALSO THE
Wheeler "Admiralty" Condenser,
WITH PATENT SCREW GLANDS,
The Wheeler-Lighthall Condenser
With Patent Waterproof Packing.



LIGHT WEIGHT SURFACE AND JET CONDENSERS, FOR STEAM YACHTS, ETC., A SPECIALTY